p 16 to 25
52 to 58

REPORT

See also page 29

OF THE

COMMITTEE OF THE SENATE

OF

PENNSYLVANIA,

UPON THE SUBJECT OF THE

COAL TRADE,

S. J. PACKER, CHAIRMAN.

READ IN THE SENATE, MARCH 4, 1834, AND ORDERED TO BE PRINTED.

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1834.

REPORT, &c.

The committee appointed in pursuance of a resolution adopted by the Senate at the last session of the Legislature, upon the subject of the coal trade, and to whom was referred the memorial of sundry coal dealers in the county of Schuylkill, respectfully submit the following Report:

The coal trade of Pennsylvania, recently and suddenly starting into existence, now constitutes one of the main branches of our domestic industry, and an important portion of the commerce of the State and the Union. It has given a new stimulus to individual as well as national enterprize, and affords active and profitable employment for numerous and various classes of the community. It has produced a spirit of improvement, interspersing the country with canals and railroads, which, by connecting the distant parts together, promote the convenience and prosperity of the people, while they add to the strength and elevate the character of the State. It has raised up in our formerly barren and uninhabited districts, an intelligent and permanent population, and converted the mountains into theatres of busy life, and our hitherto waste and valueless lands, into sites for flourishing and populous villages. It has opened a new field for the investment of capital, the expenditure of labour, and the pursuit of all the purposes of civilization and society. Its benefits are not alone confined to those engaged immediately in the trade, but are becoming general and universal. Possessing all the varieties of their species, anthracite and bituminous; furnishing a cheap and preferable article of fuel; and affording new facilities to the manufacturer, whose products enter into all the ramifications of domestic as well as foreign consumption, the mineral coals of Pennsylvania now exert an influence upon every other branch of trade, and afford the means of rearing and permanently supporting, on this side of the Atlantic, all the mechanic arts and handicraft of the old world.

It will readily be admitted, that any legislation calculated to affect, either immediately or remotely, an interest thus important, and yet in its infancy, ought to be guarded with peculiar care; and that grants of perpetuity, or privileges having a tendency to a monopoly of an article that must soon become the staple product of the State, ought only to be conferred in obedience to the clearest and most irresistible demands of public policy and paramount necessity. Viewing the subject committed to them in this light, the committee have devoted a due share of attention to it, and now submit to the Senate the result of their best reflections:

THE ANTHRACITE of Pennsylvania, so far as its presence has been ascertained, would seem to exist in *three* separate and distinct beds or fields, bearing to each other a striking similitude in geographical position, extent of area, and geological character: The *first*, or Mauch Chunk, Schuylkill and Lykens valley coal field; the *second*, or Beaver Meadow, Shamokin and Mahanoy coal field; and the *third*, or Lackawanna and Wyoming coal field. It is believed by some, and would seem not improbable, that there is another and distinct coal field between the second and third, running parallel with them, and extending near to and perhaps across the river Lehigh, in the direction of Wallenpaupack, in Pike county. Indications of coal appear, it is said, on the waters of the Wallenpaupack, head waters of Nescopeck, Bear creek, Beaver lake, and Drinker's creek. There is certainly sufficient room for the existence of such coal field between the second and third; but the country being for the most part wild and unexplored, the fact is not sufficiently established to gain full credence, nor yet can it be wholly disbelieved. The eastern termination of the second field, near the Lehigh, not having yet been accurately defined, it may be of sufficient width at Beaver Meadows, Pismire hills, Sandy run, Wright's creek, &c., to embrace a part, if not the whole of the territory where these indications are exhibited. The committee are inclined to believe this is the fact, and that, as before stated, the anthracite is confined to *three* fields or deposites. Possibly these might be correctly termed *parts* only of *one* entire coal region, embracing the whole country between the Dial mountain, bounding the third coal field in Luzerne county, on the north, and the Sharp mountain or southern boundary, in Schuylkill county, on the south. Like the question, whether the coal itself be of mineral or vegetable production, or of secondary or primitive formation, having existed from the beginning "in the midst of the waters," and presenting itself at these places when "the dry land was commanded to appear," this fact is of little practical importance, and may rather serve to amuse the curious, and to occupy the time of those skilled in the doctrine of the earth. It will not be deemed as having been improperly adverted to, if it shall be found to have had any influence in inducing the Legislature to authorise, at some future time, a full topographical and geological survey of the State.

To enable the committee more satisfactorily to discharge the duties assigned to them, and to ascertain more particularly the extent of the coal trade and the various improvements consequent upon it, they visited, during the recess of the Legislature, many of the principal mining establishments, in person. They also addressed to the principal coal dealers in the different districts, whose opportunities and intelligence, it was believed, enabled them to give the information required, and upon which the Senate could rely, a number of queries, with such variations and additions as the nature of the respective cases seemed to require. These queries, as also the answers, which are generally full and satisfactory, are inserted in the appendix, from No. 1 to 16.

THE FIRST, OR MAUCH CHUNK AND SCHUYLKILL COAL FIELD,

Commences near the river Lehigh, in Northampton county, on the east, and extends through the heart of Schuylkill county to Wiciniseo creek, emptying into the river Susquehanna, in Dauphin county, on the west. Here it has generally been supposed to terminate; and for all practical purposes, it may, perhaps, be so considered. It has been supposed by some, however, that it extended originally across the river, and west of it, some three or four miles, in Perry county. The *red shale*, which appears to form the base of the anthracite, and which is found to form a regular and uninterrupted circle or border around each of these deposites, does not terminate east of the river, but continues on either side of Wiciniseo creek, and is crossed by the Susquehanna immediately above Millersburg, and also below it, between the Wiciniseo and Peter's mountains. A vein of coal has also been discovered in the bed of the river, opposite Millersburg, as also several small veins in the mountain on the west side, on lands of Peter Ritner, below Liverpool. From the summit, between the head waters of the Swatara and Wiciniseo creeks, toward the Susquehanna, the mountains diverge, and are considerably depressed, the whole descent from the short mountain or Wiciniseo mines to the river, (sixteen miles,) being 305 feet. It is therefore probable that the mountains at the river do not contain any workable or profitable beds, and that none will be found on the east side, much nearer the river than those now worked by the Wiciniseo coal company. The river has apparently broken through the immense barrier, or chain of mountains, at this point, nearly at right angles, and it is probable has, in its course, greatly interrupted the regular strata of coal, (if they ever extended to this point,) leaving in the "crush of matter," particles and fragments only of the mineral deposite. Opposed to this theory, we have all the characteristic features of a well defined coal formation, terminating at Short mountain, on the waters of the Wiciniseo, bounded by a first and second mountain barrier, and similar in all respects to those of the second and third coal fields.

Assuming this to be the western termination of the first coal field, it is about sixty-five miles in length, averaging about five miles in width, and is enclosed or bounded by a continuous mountain, forming a trough, or longitudinal basin. This boundary, called the Broad mountain, on the north, and Mauch Chunk or Sharp mountain on the south, is cut down to a greater or less extent, at various places, by the different streams that take their rise in the coal field, or pass through it. At the south, it is penetrated by the Little Schuylkill, or Tamaqua river, at Tamaqua; by the river Schuylkill at Pottsville; by the West branch at Minersville, and by the head waters of the Swatara creek at Pine Grove; and at the west by the Wiciniseo and Stoney creeks. The northern boundary is also cut through by Roush's creek, a branch of Mahantango, and also, to some extent by the west branch of the Schuylkill, Mill creek, and a branch of Ta-

maqua, emptying into the Schuylkill; and by Kitchen and Room runs, two very inconsiderable streams, emptying into the Nesquehoning creek, and thus into the Lehigh. These creeks or passes through the mountains, afford out-lets for the coal, and favorable sites for the location of canals and rail-roads, the principal of which is the Schuylkill navigation, penetrating the first coal field at Pottsville, and extending to Port Carbon. Rail-roads are also located and already completed from the coal region, through nearly all these natural openings to the different water communications; and the Mauch Chunk or Lehigh Navigation company, with a boldness of design and magnificence of enterprize alike worthy of the cause as characteristic of the energy and perseverance of the projectors, disregarding these natural out-lets, and ascending the mountain at its greatest altitude, there enter the basin by rail-road, and divert the coal from its natural channel to the waters of the Lehigh at Mauch Chunk, and thus to market by the Lehigh navigation.

It is thus apparent that what is termed the Lehigh or Mauch Chunk coal, and the Schuylkill coal, are parts of the same bed or stratum, and of the same species. As we approach the eastern termination of the basin, it becomes narrower; the mountains approximate closer to each other, and the strata of coal, as at Tamaqua, five miles west of the Mauch Chunk mines, assume a vertical position. Still nearer the end of the basin, as at Mauch Chunk, they seem to have been thrown entirely over, one upon another, forming an immense mass of coal, with alternate layers of earth and slate; and from this mass they seem to diverge, widening and extending with the valley or basin, and continuing throughout its entire extent. Extending westward, it is true, the coal becomes somewhat lighter, the specific gravity of the Mauch Chunk coal being 1.494—the Schuylkill, in the vicinity of Pottsville, 1.453; and the Pine Grove, Wicinisco and Stoney creeks, about 1.400. The latter is somewhat more inflammable and easy of ignition, or to use a prevailing idea, (although there is no bitumen in it,) "partakes more of the bituminous character." In the vicinity of Pottsville, a species of coal is found, producing *red ashes*, and is by some regarded as of superior quality. With these exceptions, there is little difference in the quality of the coal of this region; certainly no more than in trees of the same species, growing upon the same soil, or in coal taken from different parts of the same mine; and if coal of a superior or inferior quality be found in market, it is only because the vender has been more or less careful in freeing it from slate or other impurities.

The interior of the first coal field being cut up and diversified by these various streams, running in every direction, forming several elevated summits and deep ravines, it is peculiarly fitted for extensive mining operations. The beds of coal vary from one and two, to twenty-five and thirty feet in thickness; though those of from five to ten or twelve feet, are considered best, as they can be worked with greater facility and profit. They can be so propped and roofed as to enable the miner to take out every vestage of coal, without the slight-

est danger of accident, while these of twenty or thirty feet, must be worked *in chambers*, and large pillars of coal left to support the roof; and even then, the miner is exposed to danger from the falling of particles, and sometimes large masses. There is generally too great a quantity of superincumbent earth, to admit of their being *uncovered*, and this as yet has in no instance been done, excepting by the Mauch Chunk company, at the summit mines, and at a time when the science of mining was not understood. With this exception, it is the universal practice in the region to *undermine*. The beds generally, if not universally, dip in the direction of the declivity of the mountains, and the particular mode of operating in the interior of the mine, is governed in some measure by their dip or angle. By running a tunnel, or drift, and constructing a rail-road, into the mountain, above the water level, of sufficient capacity to admit rail-road cars, and by piercing the seam of coal horizontally for any distance that may be desired, the miners obtain full command of the whole front of the stratum; and taking a number of *breasts*, pursue it like a party of mowers to the very summit or *out crop*, throwing behind them the product into the tunnel, where it is loaded upon the cars, brought from darkness into light, deposited at the landings, or precipitated at once into the canal boats. In some of the hills there are found two, three and four seams of coal, one above another, above the water level. To what extent they continue downward has not yet been ascertained. The North American coal company, has also three individual operators, M. Brooke Buckley, Robert Young, and Blight, Wallace and Co. are now operating below the water level, by sinking shafts to a considerable depth. This is done more as a matter of experiment or convenience, and for the purpose of ascertaining the relative expense of the two modes of mining, than as a matter of necessity; for whatever may be the increase of the demand for this fuel, the beds above water level will not, it is believed, be exhausted during the present generation.

Coal was known to abound on the waters of the Schuylkill, between the Broad and Sharp mountains, near where Pottsville, has since arisen, as also at the the place now called the summit, or Mauch Chunk mines, as early as 1790, and perhaps before; but it was not then, nor until recently known, that these constituted parts of a continuous coal deposite. It was then used to a very limited extent by some of the blacksmiths in the neighbourhood; but it was considered of little value, and excited little attention. Being of a different species from Virginia and Liverpool coals, it was generally considered an inferior article and unfit for use. It however, gradually worked its way among the blacksmiths, partly from necessity, and an occasional scarcity of charcoal, until it became pretty generally used, and by some to be preferred. It attracted the attention of some gentlemen of enterprize and intelligence who, at that day, looked forward to the time when it should become an article of great value. They made various attempts to introduce it, but were unsuccessful. The mines at Mauch Chunk, were partially opened prior to the year 1800,

and small quantities of the coal taken to Philadelphia. A company was organized for the purpose of engaging in the business, but were regarded by the public as visionary enthusiasts, and some of them were driven from the enterprize, and have since passed from the stage of action. Others persevered; succeeded, and yet live to witness the complete triumph of their efforts, and the consummation of their most enthusiastic predictions.. A letter addressed to the committee from the Honourable Charles Miner, of Wilksbarre, who himself participated at an early day in this perilous traffick, as also, a communication from the Pottsville board of trade, furnish some interesting facts relative to the discovery of this mineral, and the measures then devised to bring it to market, and accompany this report; [Vide appendix, No. 17 and 18.] From these documents it appears that in 1814, twenty four tons of coal were taken down the Lehigh and Delaware rivers to Philadelphia, from the Mauch Chunk mines, by Mr. Miner, in an ark, having first hauled it over a rough road from the mines to the river, (nine miles,) and cost him at the city, fourteen dollars per ton! In 1812, Col. George Shoemaker of Pottsville, loaded nine wagons with coal at the Schuylkill mines and hauled it to Philadelphia, a distance of 106 miles; two loads of which he sold for the cost of transportation to Messrs. Mellon and Bishop, who agreed to try it in their rolling mill in Delaware county; and the remaining seven wagon loads he gave away, and had some difficulty in finding persons willing to take it!

Notwithstanding the great difficulty in navigating the Lehigh, at that day, and the consequent expense of conveying the coal from Mauch Chunk to the city, Mr. Miner and his associates had so far succeeded in 1814–15, in introducing the article, as to find a ready demand for it, and were about entering upon the trade extensively. But "peace came in 1815, and found them in the midst of their enterprize. Philadelphia was now opened to foreign commerce, and the coasting trade resumed—Liverpool and Richmond coal came in abundantly, and the hard-kindling anthracite fell to a price far below the cost of shipment." From this time, the coal trade, as such, was abandoned; and it does not appear that any considerable quantity of coal was taken to market, either by the Lehigh or the Schuylkill, until 1820, when the Lehigh navigation was completed by the present company, and three hundred and sixty-five tons delivered at Philadelphia. In 1821, one thousand and seventy-three tons were brought to market, fifteen tons of which were shipped coastwise and the balance consumed in Philadelphia. In 1822, two thousand four hundred and forty tons were brought to market, one hundred and eighty-one tons of which were shipped coastwise. The year 1820 may, therefore, be regarded as the era from which we are to date the anthracite coal trade of Pennsylvania—a trade which, during the past year, has increased to nearly six hundred thousand tons, and amounting to about three millions of dollars.

The Lehigh coal and navigation company were incorporated *with* mining and trading privileges; and having constructed the important

improvements on the Lehigh, and the rail-roads to the mines, for the purpose mainly of transporting their own coal to market; and there being no natural out-let for the coal of the first district, to the waters of the Lehigh, the mining operations in that section of the coal field were, of course, and must consequently continue to be, under the existing state of things, confined exclusively to the company. During the first five years, they had many difficulties to contend with, prejudices to overcome, and opposition (which has not yet ceased) to encounter. The first improvement of the river, having failed to answer the purpose designed, was abandoned, and the present navigation (of which the committee will hereafter speak) completed; and the turnpike or M'Adamized road of nine miles, from the "summit mines" to the river, not affording sufficient facilities for the conveyance of the coal, a rail-way,—the first in the United States of equal length,—was laid down upon it. Other mines have also since been opened by the company, at the opposite side of the basin, on Room run, and a rail-road constructed from thence to Mauch Chunk, with three self-acting planes, and, including the branches, upwards of eight miles in length. During the past year, 1833, the company sent to market one hundred and twenty-three thousand tons of coal, forty-four thousand one hundred and sixty-eight tons of which, were shipped coastwise.

The Schuylkill navigation company were incorporated *without* mining and trading privileges; and hence it was, and of consequence must continue to be, their interest to invite tonnage from every quarter and from every source. This valuable improvement, one hundred and eight miles in length, was commenced in 1815, and completed at an expense of two millions nine hundred and sixty-six thousand four hundred and eighty dollars and thirteen cents. Tolls were first taken in 1818, amounting to two hundred and thirty-three dollars; and from that time until 1825, it does not appear, from the annual reports of the company, that any account was kept of the tolls on the *separate* articles of tonnage, but that the whole amounted for the year 1824, to six hundred and thirty-five dollars. The next year, 1825, at which period may be dated the commencement of the coal trade on the Schuylkill, the tolls increased to fifteen thousand seven hundred and seventy-five dollars and seventy-four cents. Of this sum, nine thousand seven hundred dollars were received from coal. Having been designed as a grand thoroughfare for the products of the mine, the field and the forest; as a free navigation, open to all who chose to participate in its facilities; and entering the first coal field at its centre, affording an out-let for the coal of more than half its territory; individuals of capital and enterprize were attracted to the scene, and rail-roads constructed, diverging in all directions to the mines.—Labourers and mechanics of all kinds, and from all nations, thronged to the place, and found ready and constant employment. A new era seemed to have dawned in the mountains. The wilderness was subdued. The coal basin seemed to be literally running over with active and resolute adventurers; a rapidly growing population became established; the wild animal was driven back, to give place to a host

of miners, who now pierce its thousand hills. So that, for the last year, 1833, (only eight years from the commencement of the coal trade on the Schuylkill,) the tolls on the canal amounted to three hundred and twenty-five thousand four hundred and eighty-six dollars and sixty-three cents. Of this sum, two hundred and twenty-eight thousand one hundred and thirty-eight dollars were derived from the article of coal alone. Houses, many of which are costly and splendid, and towns, the principal of which is Pottsville, sprang up in various parts of the region. Coal lands, the basis of all this promising superstructure, grew rapidly in value. Being owned by numerous individuals, or yet remaining the property of the State, and considered until now scarcely worth the taxes, they were eagerly sought after, and presented strong inducements for the investment of capital. Sales were made to a large amount; it being now estimated that four millions of dollars have been invested in lands in the first coal district. Many individuals purchased lands and removed upon them with their families, designing to convert them into permanent residences, and as the farmer cultivates his farm, to prosecute the mining business with their own hands and their own means. Other lands are held by capitalists, some residing in the district, and some at a distance, the mining operations being carried on by tenants. Associations of individuals, forming joint-stock companies, having obtained charters for the mining of coal from the Legislatures of other States, also purchased lands, which, to evade the statutes of *mortmain*, declared to be in force in Pennsylvania, were held in virtue of deeds of trust, and were used and occupied by those companies. Two of them, viz: the Delaware coal company, and the North American coal company, were incorporated for the term of five years, by the Legislature, at its last session, when an act was also passed escheating the lands held by companies under charters granted by other States, without the license of this State. The others either cease to exist, or operate in the capacity of individuals.

Capital was thus introduced, by individuals and by incorporated companies, and important public improvements made by both. The country has grown and flourished beyond example. The farmer shared alike the general prosperity, in the new, convenient and certain market for all his produce. In the midst of this hum of industry; this tide of prosperity, and flow of capital, it were not to have been expected that a spirit of *speculation* should have remained entirely dormant, or that all who purchased lands did so with the *bona fide* intention, either of occupying them themselves by actual resident settlement, or of realizing their expenditures from the product of the mines. Hence, a fictitious value was sometimes given to coal lands. Calculations being made to ascertain the number of *square yards* of coal contained in an acre of land and its value; and some calculating also the quantity that each acre was capable of producing without either knowing that it contained coal at all, or counting the cost, labour and expense of producing it, the adventurer conceived the sum of one, two or three hundred dollars per acre, a very inadequate

price. The few who thus ran into error and extravagance, and purchased lands under these impressions, and with these expectations, (and it is rather a matter of surprize that the number was not greater) were compelled either to lose money themselves, or impose their losses upon others. They were therefore interested in producing fluctuations and uncertainty, rather than steadiness and certainty in the coal market. Their fortunes could not be injured by the most sudden change, but might, possibly be benefited; and if a supply of coal were one year withheld, in order that the price might advance to ten, twelve or fifteen dollars per ton, data would be afforded for another estimate of the value of their lands by the square yard of coal, and the owner again realize, and perhaps double the amount of his purchase money. These, however, are of the things that have been, and it is believed, have now passed away. It is not now in the power of the speculator seriously to effect, nor of the monopolist permanently to control the coal trade of Pennsylvania. This mineral is happily too vast, and the facilities for transporting it to market too numerous and diversified to be grasped by the hand of the one or the other. At one time, and but a few years since, this might have been done, had the localities of our coal deposites been accurately known. But, this knowledge was imparted, in proportion as the interest or ambition of one impels him ahead of another, and as necessity leads to invention and discovery; and it is not now probable that such a state of things will ever occur. So long as the wealth, the enterprize, the intelligence, and the patriotism of our citizens cannot be concentred in the few, but are equally distributed among the many, and equality of rights continues to form a fundamental principle of our government, it must remain as their common heritage, constituting a large portion of the present wealth of the State, and her principal strength in after ages. New mines are developed as the consumption of coal increases; and the spirit of improvement and rivalry is abroad, seeking to supply the demand. Competition is the grand alembick in which the health of trade is purified and preserved; and, in relation to the coal trade, if allowed to pursue its true and legitimate objects, unfettered and unrestrained; uncontrolled by injudicious legislaitve enactments, it will, as in all other cases, produce uniformity, regularity and certainty; and a safe guaranty for the investment of capital and the expenditure of labour.

The following statement comprises the different canals and rail-roads at present completed, in the first coal district and connected with it, as also an estimate of the value of other property and improvements necessarily employed in carrying on the coal trade:

	Miles.	*Cost.*
Lehigh navigation,	46	$1,546,094 96
Former river improvements,		155,420 00
Rail-road to summit mines and laterals,	16½	59,766 39
Room Run rail-road,	8¾	123,000 00
Schuylkill navigation,	103	2,966,480 13

	Miles.	*Cost.*
West Branch rail-road,	15	$ 185,000 00
Lateral roads connected with the above,	10½	31,500 00
Norwegian or Mount Carbon rail-road,	9	95,000 00
Laterals connected with the above,	1¼	5,250 00
Mill Creek rail-road,	4	15,000 00
Laterals connected with the above,	7	11,700 00
Schuylkill Valley rail-road,	10	60,000 00
Laterals connected with the above,	11½	19,200 00
Navigable feeder of the Union canal and dam,	21	164,364 38
Pine Grove rail-road, made by Union Canal company,	4	20,561 25
Continuation of same by individuals,	2½	7,500 00
Lykens' Valley rail-road,	16	90,000 00
Little Schuylkill or Tamaqua rail-road,	20	225,557 11
Lateral branches, single, double & treble tracks,	6½	
To the above might also be added the Delaware division of Pennsylvania canal,	60	1,430,211 85
Total,	377	$7,211,606 07

Number of wagons or rail-road cars, in the first district, 2,354, at $70 each,	$164,780 00
Boats employed by individuals and companies, 980, at $500 each,	490,000 00
92 colliery establishments, including working capital, utensils, horses, mules, &c. &c. at $4,000 each,	368,000 00
100,000 acres of land at $40 per acre,	4,000,000 00
	$5,022,780 00

The whole amount of coal taken to market from this district during the last year, 1833, is 399,933 tons, to wit:

On the Mine Hill and Mill Creek rail-road,	37,074 tons
Mine Hill and Schuylkill Haven rail-road,	77,073
Schuylkill Valley rail-road,	23,479
Mount Carbon rail-road,	73,136
Little Schuylkill or Tamaqua rail-road,	37,506
By individuals not using rail-roads,	6,665
Mauch Chunk, or Lehigh navigation,	123,000
Pine Grove, on Union canal and in wagons,	12,000
Lykens' Valley,	10,000
Total,	399,933
To the above may be added for home consumption and the supplies of the adjacent country, about	30,000
Making the total, mined, consumed and sent to market in the first district,	429,933 tons

The borough of Pottsville contains at present, a population of about four thousand souls, and upwards of five hundred dwellings. It is valued at one million of dollars. Port Carbon is also a place of considerable commercial importance—is valued at three hundred thousand dollars, and does a coal business nearly equal to that of Pottsville.—The towns of Schuylkill Haven and Minersville, are estimated at two hundred and fifty thousand dollars each, and their coal trade is about equal to that of Pottsville. The towns of Mauch Chunk, Summit Hill, Tamaqua, Patterson, Tuscarora, St. Clair, New-Castle, Middleport, Mount Carbon, Pine Grove, Coal Castle, Llwellyn, and other small towns, exclusive of the huts and cabins occupied by the miners and labourers, may be estimated at a million and a half, making the total valuation of the towns in the first district, three millions of dollars. Of the canals and rail-roads above stated, 279⅓ miles were made by individuals and incorporated companies not having mining privileges, at an expense of $5,257,187 61; and 97¼ miles by incorporated companies having mining privileges, at an expense of $1,954,-418 46. The Delaware division of the Pennsylvania canal was made by the State.

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THE SECOND, OR BEAVER MEADOW, SHAMOKIN AND MAHANOY COAL FIELD.

The particular localities of this coal field are not so well defined as those of the first and third. Occupying the summit, or highest ground between the waters of the Lehigh and Schuylkill, and the Susquehanna, in the midst of the dense chain of mountains, extending across the entire country between these streams; and being consequently farther removed from the eastern market, it has not been so fully explored nor its resources so extensively called into requisition. Sufficient information upon the subject is possessed, however, to enable us to trace its general features, and to justify the belief that it is a distinct and independent formation, forming, as it has recently been termed the "back bone" of the anthracite coal deposite of Pennsylvania. It is also equally susceptible of access; and if the improvements now contemplated and in progress in this region be completed, and the measures hereafter suggested by the committee be adopted, its mineral wealth can be thrown into market upon terms equally favourable.

The second coal field lies at an average distance of about ten miles north of the first; runs laterally with it, ranging nearly an east and west course, is about the same in extent of miles, and apparently similar in its geological character. It is enclosed or bounded by a continuous range of double mountain barrier, commencing about three miles west of the Lehigh, and ending in the forks of Mahanoy creek, in Northumberland county, about five miles east of the Susquehanna. The mountain by which it is thus enclosed, assumes various names,

from the fact that different streams pass through it, or from other local circumstances. On the south, it is called the Spring mountain, which continues to the western extremity of the field, where it is called the Mahanoy and Bear mountain. On the north, it is called mount Yeager, Buck mountain, Catawissa mountain, Shamokin mountain, Zerby's Retreat, &c. &c. This chain or boundary is preserved at the western end of the basin, and also on the north and south, so far as it has been traced, with surprising regularity, interrupted only by the streams that break through it. The eastern end seems to be more irregular, the boundary being broken into fragments, and various small streams flowing through it into the Lehigh. The outer base, like that of the first coal field, exhibits a *red shale* margin, extending entirely around the field, and marking its extent with great precision. At the east end it is penetrated by Beaver Meadow creek, and Hazel run, emptying into the Quakake, and also by Laurel run, Sandy creek, Terrapin pond creek, and other small streams, all emptying into the Lehigh, and affording out lets, by rail-road, for the coal of that part of the field lying between the Lehigh and the summit formed by the head waters of Tamaqua and Beaver Meadow creeks, embracing an area of about fifteen miles in length, and from five to six miles in width. On the north, it is broken through by Black creek, a branch of the Nescopeck, Cattawissa, Roaring creek, Shamokin, and Zerby's brook, a branch of Mahanoy. On the south it is broken through below Girardville, by Big Mahanoy, which passes along the south or outer side of the boundary, to its western termination, in Northumberland county, where it leaves it, and falls into the Susquehanna. It may therefore be said that there is no direct southern outlet from this district, the Mahanoy running west into the Susquehanna, and the Beaver Meadow creek east, into the Lehigh. The Broad mountain runs the entire distance from the Lehigh, to the Susquehanna, separating the first and second coal fields, and although considerably depressed by the west branch of the Schuylkill, above Coal Castle, as well as at some other places, it is broken through only by the head waters of Tamaqua ; and perhaps this valley will in time afford the most eligible route for that portion of the coal of the district, west of the Beaver Meadow summit, and east of Girardville. The Tamaqua and Beaver Meadow creeks, rise within the short distance of one hundred and thirty-two feet of each other ; and the whole ascent from the Beaver Meadow mines to the summit or top of Spring mountain, is two hundred and sixty feet, and the descent from thence to the town of Tamaqua, at the commencement of the Little Schuylkill rail-road, one thousand and twenty feet. The mind of man is not, however, in this age of improvement, confined to ravines, nor the meanderings of crooked streams. No obstacle that nature has placed before him seems to be regarded, and accordingly we find rail-roads constructed over our highest mountains, and others in progress, running not over one mountain only, but crossing transversely all the mountains interposing between the waters of the Schuylkill and the Susquehanna, and the Susquehanna and the Lehigh. The Danville

and Pottsville rail-road, designed to connect the Schuylkill navigation at Pottsville, with the Susquehanna at Danville, and the Pennsylvania canal basin at Sunbury, was projected in 1826, and is now completed as far as Girardville, on the Mahanoy creek, about ten miles north of Pottsville. The death of its chief patrons, the late Stephen Girard, who subscribed two hundred thousand dollars to the stock of the company, and Gen. Daniel Montgomery, with whom the project originated, has retarded for a time the completion of the work. When finished, it will pass through the heart of the first and second coal fields. The most difficult part of it, including the tunnel and inclined planes, is now completed, and will be ready for the transportation of coal, as soon as the mines on Mahanoy, now owned by the city of Philadelphia, shall be fully opened. From Girardville, this road will run a westerly direction; and from the Shamokin summit, pass some eight or ten miles farther through the coal beds of this region, and following the valley of Shamokin, intersect the basin of the Pennsylvania canal at Sunbury, thus affording another and most important avenue for tonnage to that canal. It will therefore be used, not only for the transportation of coal from the mines on either end, and to different markets, but as a grand thoroughfare for the merchandize, produce, general traffic of the country, and the agricultural supplies of the vast and rapidly increasing population of these two mineral districts; and when the spirit of liberality shall be as willing to allow, as public policy is now to dictate, the propriety of a free communication to the Chesapeake, the mineral treasures of Shamokin and Mahanoy will be found to contribute their full share to the wealth of the State and the prosperity of her citizens.

This road being the only improvement yet completed in the second coal region, there has been no coal taken from the district to the eastern cities, excepting small quantities for the purpose of proving its character and quality. Several beds have been exposed in different parts of the basin, from which the blacksmiths and the neighbouring country have for many years been supplied. No doubt exists either as to the excellence of its quality or its abundant quantity. It differs slightly, in its general appearance, from the coal of the first district; that of the western end, on Shamokin and Mahanoy, being very brittle, of a shining black colour, combustible, and exhibiting appearances resembling the *growths* of wood; while that of the eastern end, at Beaver Meadows, or a considerable portion of it, is *undulated* and of *conchoidal fracture*. It burns freely, some portions of it, (as in the first and third districts,) producing *white*, and others *red* ashes. The beds, so far as exposed, dip to the south-west, and some of them appear to be of extraordinary thickness. The mine now opened on Zerby's run, or Mahanoy, known by the name of the Oyster bed, when first discovered, presented, in an abrupt and steep precipice, jutting into the creek, the appearance of several strata of coal, with intervening earth and slate; but upon excavating these different strata, the intervening layers of earth were observed to grow thinner, and at a short distance to run out, leaving an unbroken body of coal, with-

out any admixture, of fifty feet in thickness above the water level. There are other beds also on Coal run, and Shamokin creek, twenty-seven and thirty feet in thickness. The Beaver Meadow company's mine is about twenty-seven feet in thickness above water level, with small intervening strata of slate, and it has been traced to the depth of twenty-one feet below water level, without encountering any admixture or reaching the floor. Other beds are found to be no more than three and two feet, and some ten, twelve, fifteen and twenty feet in thickness. The basin has not been sufficiently examined to justify any opinion as to the precise thickness of the different strata. It is generally believed they are larger than those of the first district; yet it is possible that, upon more minute examination, they may prove not materially different.

The Beaver Meadow company have authority to construct a rail-road from their mines to the Lehigh, and down the river to the Delaware division of the Pennsylvania canal. It may, however, depend upon the will of the Lehigh coal and navigation company, and perhaps upon the course of policy which the Legislature may adopt in reference to the subject generally, whether it shall become necessary to make this road; and whether, if made, such negotiation between the State and the navigation company may not afterwards be entered into, as will accommodate the trade of the second coal district, and also the increasing trade of the upper country, and thus render the rail-road in a measure useless and unnecessary.

During the recess, a communication was received from a committee appointed by a convention of delegates, representing several of the northern counties interested in the navigation of the Lehigh, asking an investigation of the grounds of complaint against the Lehigh coal and navigation company. Conceiving that the Senate had not imposed upon the committee the duty of investigating all the charges, whether real or imaginary, that have from time to time been preferred against this company, and which were before another committee of the Senate at the last session of the Legislature, they directed their attention only to such facts as might, in their judgment, illustrate the effect of the acts and operations of the company (having mining and trading privileges,) upon individual enterprize, and the improvement and general prosperity of the country. For this purpose, certain queries were addressed to the committee of the Conyngham convention. Their answers, as also such parts of the replies of the Lehigh navigation company as appear applicable to this branch of the inquiry, are inserted in the appendix, Nos. 19, 20 and 21, and present fully the views of the complainants,

The river Lehigh is the natural route to market for several of the northern counties. It was declared a public highway as early as 9th March 1771. Private subscriptions were made at an early day to improve the navigation, and commissioners appointed by the same act to appropriate and expend the money. What amount was then raised is not known, but it may safely be presumed to have been very inconsiderable. The Legislature, by the act of 15th April 1791, appropria-

ted *one thousand pounds* to improve the Lehigh "from its junction with the Delaware so far up the same as the sum would admit"; and on the 27th February, 1798, a company was incorporated "for the purpose of improving the navigation," and a lottery authorized in aid of the improvement. It does not appear that any thing was done by this company in the way of improving the Lehigh, although the object was never lost sight of. By act of 7th March, 1810, commissioners were appointed to supply the places of those who were deceased, or had declined to serve; and on the 24th March, 1817, an act was passed for the general improvement of the State, which act authorized the Governor to subscribe for six hundred shares of the stock of the old company, to be paid as soon as a similar amount should be subscribed by individuals. At this time, or before the meeting of the next Legislature, the subject was taken hold of by Messrs. *White, Hazard* and *Hauto*, who, on the 20th March, 1818, obtained the passage of a law conferring upon them the right of improving the navigation of the Lehigh, which act repeals so much of the law of 1817 as authorized the Governor to subscribe to the stock of the old company. So that the sum of one thousand pounds, is the whole amount of money ever appropriated by the State for the improvement of that river. It passed, by the act of 1818, into the hands of the present company, in a state of nature, and the grant was subsequently confirmed to them and their successors, by an act of incorporation of the 13th February, 1822, by the name of the Lehigh coal and navigation company; at which time the company surrendered two-thirds of the tolls they were entitled to charge under the former law.

This grant was an extensive one; and although at this day it may be viewed by some as an extraordinary relinquishment of sovereignty, and a singular encroachment upon the natural rights of our citizens; it was at that time regarded as an inducement scarcely commensurate with the magnitude and the hazard of an enterprise which had long been projected, and repeatedly attempted, but which had as long been delayed, or as frequently baffled. Few other men or other companies, it is presumed, could have been found willing to commence the work upon less favourable terms, and much more extensive privileges would no doubt have been conferred by the state, had they been deemed essential to the accomplishment of the object. It conferred upon the company, with certain limitations, the sole jurisdiction of the river Lehigh, for the distance of eighty-three miles, and the free and uncontrolled use of its waters. So dangerous and hazardous was the natural navigation of the river regarded at that day, and so difficult was it to transport coal over the mountain from the first coal field to the stream, that the Mauch Chunk coal lands, now so valuable, were leased by the company for a period of twenty years for the payment of the rent of *one ear of Indian corn* annually.

The company first improved the river by artificial locks and other devices, at an expense of one hundred fifty-five thousand four hundred and twenty dollars. This improvement, being greatly interrupted by freshets, and failing generally to answer the purpose, the present navi-

gation, admitted to be the best in the United States, was constructed at an expense of one million five hundred forty-six thousand ninety-four dollars and ninety-six cents. The different rail-roads and other improvements made by the company to the mines, &c. cost the sum of three hundred twenty-three thousand five hundred eighty dollars and twenty-seven cents. Repairs and other expenses, one hundred seventy-one thousand ninety-five dollars and ninety-one cents: Whole original cost of improvement two millions one hundred ninety-six thousand one hundred ninety-one dollars and fourteen cents. From the limited examination of the subject by the committee, they have not been able to perceive, that in the expenditure of this large sum of money in the completion of their works, and in the expenditure of an additional sum of about one million of dollars in carrying on the coal trade, the company have violated the letter of their acts of incorporation, or committed any act which would be deemed to amount to a forfeiture of their charter. They completed the lower grand division from Nesquehoning to the mouth of the Lehigh, 48 miles, nine years before the time limited for its completion, and have commenced the upper division within the seven years prescribed by law for that purpose. Nor is it pretended they have imposed higher rates of toll than the law authorizes them to charge. It is argued, however, that they have laid exorbitant tolls for the purpose of prohibition, and that this amounts to such abuse and misuse of their charter, as would justify the Legislature in resuming the grant. The committee think otherwise. So long as the company keep within the provisions of the law, and do not assess a higher toll than the law permits them to receive, they may impose it either for the purpose of prohibition, or for the purpose of remunerating the stockholders for their large expenditures. Their acts and not their motives must determine whether they have or have not forfeited their chartered privileges. Whether they have adopted a wise or erroneous policy, which, by grasping after large tolls, may prevent them from receiving any, is a question between them and the stockholders. And even if the grant, as is contended with ability by the convention were unconstitutional, still the Legislature, having conferred the power upon the company for the accomplishment of a great public object, and the individuals so authorised having in good faith executed the trust, and expended their substance in pursuance of the law, the state would be bound in equity to see them out, and to remunerate them for any loss which they might sustain by reason of a decision of the proper tribunal that the Legislature had exceeded its authority, and that the charter was of consequence null and void.

The company, therefore, having in nowise violated their chartered privileges, the issue is, in the opinion of the committee, not between them and the people, but between the people and the Legislature. We are thus led to inquire, how the people have been affected by this legislative grant, and what are the natural consequences resulting from it? That the people at large have enjoyed many benefits which they otherwise would not have enjoyed, cannot be denied. The country in consequence has been to some extent improved—large sums of money

en, and continue to be yearly expended, passing into the hands abourer and the mechanic, and a permanent market is created mountains for all the produce of the farmer. The river Lehigh, ly a wild, rugged and dangerous stream, has been converted safe, permanent and excellent navigation. These are some of any advantages conferred by the grant upon the public. Let quire whether it may not be turned to still greater advantage, by subserving the views of the many, instead of those of the few, me productive of greater good—and whether instead of retarding, ay not become the means of improving and enriching the whole of the northern territory of the state—of converting the wilder- s and barren mountains into usefulness and value, and of augment- the trade and strenghtening the resources of our metropolis.

Every charter or act of incorporation, is to a greater or less extent, infringement upon the natural rights and liberties of the people— d their natural tendency is to monopoly. As an auxiliary or addi- onal stimulant to this inherent principle of corporate bodies, the Le- igh Coal and Navigation company possess, by express legislative grant, the privilege of mining and transporting coal—a power which, when connected with an improvement depending alike upon its tolls for support, must ultimately prove its own bane, and become injurious to the interests of the community :—and this, by the strong induce- ment that is presented to the company to monopolize the trade, and to keep down competition. Companies, like individuals, will en- deavour always to pursue their own interests ; and if they believe they can realize a greater profit by engaging themselves in a particular branch of trade than by relying upon tolls accruing from the produce of others engaged in the same business, they will of course embark in the trade, and endeavour to monopolize it. They will not be willing to furnish upon equal terms facilities to their competitors of the same trade, nor allow them upon even ground " to plough with their own oxen." They will, unless prevented by their charter, raise their tolls so high as to exclude him from market, and throw every other obsta- cle in the way. This is a state of things naturally resulting from the operations of incorporated companies possessing these powers ; and the great and radical error of former legislatures in reference to this subject has been, in the opinion of the committee, the blending of traficing privileges with the authority to construct canals and rail- roads, which, instead of being great and free communications for the accommodation of the whole country, belong to private companies, with authority to use them for their own benefit, and to lock up or open at pleasure the resources of a whole valley or community. The Schuylkill navigation and the improvements at Pottsville, when con- trasted with those now under consideration, abundantly demonstrate the correctness of this position. And yet, had similar privileges been considered necessary to ensure the completion of the work, they would no doubt have been conferred by the Legislature upon the Schuylkill Navigation company ; and of course a policy similar to that pursued by the Lehigh company would have been adopted. But, coal was

not then regarded as an object of much importance; the company, appears from their memorial, having in view, primarily, the lumb and agricultural trade of the Schuylkill valley.

While the committee therefore deprecate the policy of uniting tra ding privileges with the authority to make public rail-roads and canal (believing that this constitutes the strongest grounds of opposition t such companies,) and while they believe that the Lehigh company might have adopted a course of policy more conducive to the public prosperity and convenience, as well as to their own interests, they are of opinion that any other company might have pursued a similar policy under like circumstances; and that if the people on the Lehigh have been subjected to hardship or inconvenience, it has been done *according to law;* and perhaps few other companies, with powers and privileges of like extent, would have exercised them with greater lenity or with more advantage to the public. No complaints are known to exist, excepting in relation to the transportation of coal.—Indeed, if the public had any assurance that the policy of the company would remain as now established, there would be little necessity for legislative interference. They have reduced their tolls on coal for 1834, from one dollar and three cents to seventy-three cents a ton, for forty-six miles. They have thrown open to sale, lots in the town of Mauch Chunk, "free from any restrictions on the business or occupations of purchasers." Churches, store houses, and shops have recently been erected, and mechanics of all descriptions are now established in the town, and begin to breathe the air of liberty. But, the affairs of the company are managed by a board of directors. The present stockholders as well as the directors, may soon be succeeded by others with different views and different feelings. Those of the next year may reverse the proceedings of their predecessors; and it is not to be expected that individuals will this year engage in the coal trade in the second coal field, or construct rail-roads from the mines to the canal, when next year, by a single resolve of another board of directors, the policy may be changed; and upon a sudden rise in the coal market, or from any other cause, their coal be prohibited by high tolls from passing upon the canal. It is on account of this state of fluctuation and uncertainty that the country above Mauch Chunk, on the Lehigh, has thus long remained a howling wilderness, without population; the second coal field without miners, and the contemplated improvements to connect the Lehigh with the north branch of the Susquehanna, so long delayed. These improvements, so vitally important to the northern section of the State will never, it is feared, be made, while the Lehigh navigation remains in the hands of an incorporated company, holding and exercising mining and trading privileges.

Then, is there any remedy—any healing in the law for this malady—any measure which, while it shall render full justice to those who have expended their money and their labour upon the faith of our laws, may restore the people to their natural rights, bring forth the mineral resources of another section of the state, increase our

population, and open another avenue to the city of Philadelphia for a trade which has hitherto sought a different and a more distant market? The rates of toll as at present established on the Delaware division of the Pennsylvania canal are a half a cent a ton per mile, or thirty cents per ton from Easton to Bristol, sixty miles; and the complainants suggest the propriety of imposing the same rates of toll upon the Lehigh coal passing upon this canal that the company charge on the Lehigh navigation, and thus bring them to terms,—or, in other words, to put in force the law of retaliation. At first view, there would appear to be some equity in this; but, another thought will demonstrate its entire inexpediency. It would evidently have a tendency to drive the coal out of the Pennsylvania canal into the Morris canal commencing at Easton and extending to Newark, in New Jersey, or into the bed of the river to the navigable feeder of the Delaware and Raritan canal, twenty-five miles below Easton, through which it might pass twenty-two miles to Trenton—thence in sloops to Philadelphia, or by the main canal from Bordentown to New Brunswick and to New York. The State would therefore not only lose the tolls on the Mauch Chunk coal, but it might after all be well doubted whether the people owning coal lands above would build up improvements and engage in the coal business upon the strength of a tenure so fragile, and a guaranty so novel and precarious. Besides, our public improvements, having been constructed at the common expense, and with the joint funds of the people, and for the equal benefit of all, it would seem to be invidious and unjust to compel one portion of citizens to pay a heavier tax than those of another.

The committee therefore, without entering more minutely upon an investigation not immediately contemplated by their appointment, but viewing the subject as closely identified with the best interests of the Commonwealth, are led to the conclusion that the State ought to adopt the only alternative which appears to be free of difficulty or doubt:—the purchase of the Lehigh navigation. In the act of 1818, the Legislature reserve the right to purchase after the expiration of thirty-six years, and also to forfeit the charter in case of misuse or abuse. What was the object of the first reservation? Either that, at the expiration of thirty-six years, the company would be fully compensated for the expense and cost of the work, and its profits and advantages become too great and their power and patronage too extensive to be wielded by a chartered monopoly, and that consequently they might become injurious to the public interests; or, that in the more advanced state of population and commerce, it should be required for more general purposes, and ought therefore to revert to the State for the common use and benefit of her citizens. It cannot for a moment be supposed that the reservation meant nothing, and that the State intended forever to relinquish to a private company all jurisdiction and control over so important a stream, and so extensive and valuable a territory. Should either of these events occur before the expiration of thirty-six years, the same reasons will exist, in fact, for the interposition of the Legislature. It is suggested also, that even in

the absence of misuse or abuse on their part, the State may, by an arbitrary act of legislation, resume all the immunities and privileges of the company, and deprive them of their rights of property; that this high prerogative is lodged in the people and may be exercised by their representatives, whenever the sacrifice is required for the public good; giving at the same time full compensation for the property taken, or establishing a tribunal to ascertain by law the quantum of damage sustained—that it is inconsistent with our ideas of legislation and sovereignty, to believe that the Legislature can create a power greater than itself, or one that may control, and forever set its authority at defiance—that the distinctions between the rights of artificial and natural persons is more fancied than real, and that there is nothing more sacred, in the immunities of a charter than in the vested rights of the citizen in his lands and buildings which he has purchased from the State to be enjoyed by himself, and dying, to be transmitted to his children; and yet the State by an arbitrary act of legislation freely takes the one and the other whenever and wherever it may be required for public purposes—and more than all prescribes her own terms and her own time for making reparation to the injured party. To some of these positions the committee fully assent. If the State have not the power to take the property of a corporation when required for more general purposes, our public works must stop short whenever they reach a borough line. They agree with the company that "our courts of law are the proper tribunals to decide the constitutionality of a charter;" but they insist that it is for the Legislature to determine whether the farther exercise of the corporate powers of a company, (whether this reservation be contained in the charter or not,) be inconsistent with the paramount interests of the public—and if so, to resort to the chancery powers vested in them by the Constitution, "to grant relief in equity as shall be found necessary." In the present case, however, it is not necessary to enter upon grounds so debateable. Whatever may be the nature of the grant—the rights of the company and the powers of the Legislature, the State is bound to respect them, and in good faith to preserve them inviolate. It is not necessary to adopt a measure the expediency of which can be at all questionable. The company are willing to sell their canal, reserving their mining privileges, and the committee are unanimously of opinion that the State ought to purchase. Those acquainted with the local situation of the eastern end of the first coal field, and the lands owned by the company will be satisfied that although individual means might be adequate to the task, yet that no individual in his private capacity, would be willing at this day, to undertake the transportation of coal, to any considerable extent, over the mountains from the mines to the Lehigh. As a coal company, therefore located at this place, they may with safety and for the purpose of beneficial competition be allowed to remain. Then, how are we to be benefitted by the purchase? In the first place,—

The state will again be put into possession of the valley of the Lehigh, and by uniting the Lehigh navigation with the Delaware canal,

a free and permanent communication will be opened from the *three* great anthracite coal fields of Pennsylvania to the sea board. This is a sufficient inducement; but it is not all: A communication will be opened through which will pass the various and valuable productions of the Wyoming valley, of the north branch of the Susquehanna, of the Gennessee river and the lakes; and the people inhabiting a large portion of our great rival be placed several miles nearer to Philadelphia than their own city, New York. This trade will be drawn to our own city—our merchandise and our coal will be readily received in exchange, and the tonnage upon the whole secured to our own canals. The improvements designed to connect the Susquehanna with the Lehigh, hitherto prevented by the uncertain or unknown policy of the company will immediately be made. A canal, it is ascertained by actual examination may be made from Berwick, on the north branch of the Susquehanna, by the valley of the Nescopeck to the Lehigh; and a rail-road from Wilksbarre to the mouth of Wright's creek, a distance of fourteen miles only is practicable, and would doubtless be placed under immediate contract. The rail-road from the Beaver meadow mines to the Lehigh would be prosecuted to immediate completion, and other rail-roads from various parts of the second coal field would soon be seen to intersect the canal and pour their treasures into market. A population, equal perhaps to that of the first coal district would soon grow up in these now barren and desolate mountains. In this, there is no fiction. We see that such things have real existence; and the truth is practically demonstrated by the experience around us, that the state can never go wrong in constructing or purchasing a canal or rail-road, leading from or passing through a coal region. Nor would a company err in doing so, were the navigation thrown open to the free exercise of individual enterprise and competition.

Again, the state ought to own the Lehigh canal for another reason. The Delaware division of the Pennsylvania canal, from Easton to Bristol, sixty miles, cost the state one million, four hundred and thirty thousand, two hundred and eleven dollars and eighty-five cents, the annual interest of which at five per cent. is seventy-one thousand, five hundred and ten dollars and fifty-nine cents. The Morris canal, commencing on the opposite side of the river, as also the Delaware and Raritan canal and other improvements contemplated in New Jersey will be found greatly to increase the coal trade of the Lehigh. By uniting the Lehigh and Delaware canals a proper share of this trade would be secured; and there can be no doubt that in a few years the coal alone will pay the interest of the whole sum invested in both canals. In 1832, the Mauch Chunk company paid to the state in tolls on the Delaware canal, seventeen thousand, six hundred and forty-six dollars and sixty-one cents, and in 1833, notwithstanding the breaches in the canal forced many thousand tons to take the river in arks, thirty-one thousand, nine hundred and forty-one dollars, and sixty-eight cents, a sum nearly equal to half the interest of its original cost. The Lehigh navigation is admitted to be superior in

all respects to any other work of a similar nature in the United States. The work is executed in the best manner, and its banks have now become solid and permanent and of course will require but little repairs. It is forty-five feet at bottom, sixty feet at surface, and contains five feet depth of water. Its locks are twenty-two feet in width and one hundred feet clear in the chambers, and are calculated for single boats of one hundred and fifty tons, or double boats of seventy-five tons burden. It is forty-six miles in length, with forty-seven lift and six guard locks, and nine dams. The whole lockage from Mauch Chunk to low water in the Delaware at Easton is three hundred and sixty feet. Its original cost, including damages, &c. is one million, five hundred and forty-six thousand, ninety-four dollars and ninety-six cents and including former river improvements, upper and lower sections, clearing channels, &c., one million, eight hundred and seventy-two thousand, six hundred and ten dollars and eighty-seven cents. The same work would perhaps have cost the state double this sum. The company are obliged by their charter to improve the river Lehigh as far as Stoddardsville, and a release from this duty would of course be an important consideration in a negotiation for the purchase of their navigation. The committee are not authorised to communicate to the Senate the precise sum for which the company will agree to convey, not having entered into any direct correspondence upon this point; but are authorised to say that they will take in payment the certificates of debt, without putting the state to the necessity of raising the money, and further, "that they will guarantee, for the ensuing five or seven years, that the tolls on coal from their mines alone shall pay annually seven-tenths of the interest of the purchase money, and more, if the tolls amount to more." Assuming for the purpose of illustration, that the purchase at present would amount to two millions of dollars, seven-tenths of the interest would be seventy thousand, and the remaining three-tenths thirty thousand dollars. This latter sum, therefore, exclusive of the ordinary expenses, is all that would be required, from all other sources, to meet the interest of investment. Can it be for a moment believed that the immense resources of the second coal field, and the vast trade of the north would not pay in tolls the sum of thirty thousand dollars annually? The history of the times, and the practical experiments of the day dispel every doubt upon the subject. Let us not be intimidated by the present depression, (momentary it is hoped) in the pecuniary affairs of the state. Let this circumstance rather urge us to adopt such measures as will place the state beyond the reach of embarrassment—out of the danger of internal as well as external commotion, and upon that high eminence in the scale of the Union, which she is entitled to occupy, and to which she has the power to ascend. By judiciously fostering our mineral resources, we may place the State upon a basis too solid to be shaken. Our coal and our iron will be found to constitute an inexhaustible source of wealth, and the surest indemnity for our vast State and individual expenditures. Allow them freely to put forth their strength, and the gloom that now hangs over our public

improvements will speedily vanish, and our public debt be rapidly diminished, and in time entirely discharged. The committee therefore, respectfully, but earnestly recommend, by every motive of State policy, the purchase of the Lehigh navigation, and with this view suggest the propriety of adopting a resolution requesting the company to state specifically the terms upon which they will agree to convey.

The whole quantity of coal mined in the second district during the last year, may be estimated at five hundred tons, which has been hauled in wagons, &c. from the mines to supply the neighboring districts.

A company has also been incorporated for making a canal or railroad from the mines on Mahanoy and Zerby's run to the river, which will, it is believed, afford one of the most eligible out-lets for the coal of the second district. The road may either follow the Mahanoy valley from the mines to the river, or pursue a more direct course, along the foot of the mountain, crossing the second boundary directly to the Pennsylvania canal, into which the coal may enter by the construction of an out-let lock near the Middle creek aqueduct, below Selinsgrove. Recently, indications of coal have been discovered at this point in the second barrier, within the distance of one mile from the river.

THE THIRD, OR WYOMING AND LACKAWANNA COAL FIELD,

Is situate wholly in Luzerne county, and constitutes about one-fifth of its territory. Occupying a central position in the county, it bears nearly an east and west course, and terminates near the line of Wayne county on the east, and Columbia county on the west. Like the first and second coal fields, it is confined between two parallel mountains, or rather enclosed by a continuous mountain, extending entirely around the coal deposite. It is about sixty-five miles in length, averaging about five miles in width. Being widest at the centre, and growing narrower as the barrier or boundary contracts towards either end, it assumes, like the other fields, the shape of a longitudinal trough, or canoe. Its boundary is progressively termed the Moosick, Lackawanna, Dial, Wilkesbarre, Nanticoke, Shickshinny, and Capous mountains. The coal beds of this region vary from one foot to thirty feet in thickness, and are generally more accessible than those of the other fields, being exposed in innumerable places, by deep ravines, abrupt precipices, and small streams, and in some places form the bottom of the river Susquehanna and the Lackawanna.—The Pennsylvania canal passes through them at several points, and at others the coal may be precipitated from the mines by means only of a chute or slide of boards, directly into the canal boats.

This coal formation is well defined, and its geological character more extensively and advantageously known than that of either o

the other regions, having recently been explored by Professor Silliman, a gentleman of eminent science and intelligence. The strata would appear to run transversely across the valley, forming a series of eliptical curves, and dipping from either side of the boundary in the direction of the waters. The coal is heavier and harder than that of the other two deposites. Arks, laden with this coal have been known to sink in the Susquehanna, and after remaining under water until the freshet had subsided, has been taken out without sustaining any loss from decomposition. It is generally thought to be not quite so free of ignition, but when ignited, the heat is intense and its endurance greater.

To the eye of the passing or superficial observer, there would appear to be little if any variance in the general appearance and characteristic features of these three coal fields, excepting only in one particular—and that difference is a striking and interesting one: The first and second fields present a thin, barren, steril soil, peculiar to our mountain lands—small portions of it only being susceptible of cultivation—although it is said to be generally nutritious and producing fine gardens. The third field presents a rich, deep loam, embracing the beautiful and fertile valley of Wyoming, and one of the most productive and excellent agricultural districts in Pennsylvania. Alike rich in its agricultural productions as abundant in its mineral treasures, the same acre of land may furnish employment for both the agriculturalist and the miner. While the farmer is occupied upon the surface, at the handles of the plough, in preparing the rich soil for its seed, or the field, waving with rich luxuriance, bends before the sickle, the miner, like the antipodes of another region may be actively engaged in the interior, beneath his feet, in mining and bringing forth the long-hidden treasures of the earth. The different branches of industry, therefore, may here not only be placed side by side, but literally one on top of the other.

The existence of coal in this region, was known at a very early day, and long before it was discovered in either of the other fields. It was used before the period of the revolution, and its present and prospective value may have tended to stimulate the long and direful conflicts, for the jurisdiction of the soil, in which the valley was strewed with the bones of its patriotic defenders. In the years 1775 and 1776, several boat loads of coal were taken down the Susquehanna, and hauled to the United States' armory at Carlisle, for the manufacture of arms. This coal was taken from a bed belonging to the late Judge Hollenback, one mile above Wilkesbarre, near the mouth of his mill creek. The same bed has recently been opened, at the place pointed out by the Judge in his life time, and upon removing the earth, the marks of the tools were plainly perceptible in the coal seam. In 1768, it was first used by Obediah Gore, a blacksmith, who came into the Wyoming valley as a Connecticut settler; and having succeeded in using it in his shop, it soon became the only fuel used by the blacksmiths in the valley. It was first used in a grate, by Judge Fell, of Wilkesbarre, in 1808, who, to use his own language,

"conceived the idea, that if a body of this coal were ignited and confined together, it would burn as fuel; and to try the experiment, he had a grate constructed for the purpose, eight inches in depth and twenty-two inches long, and the coal, after being ignited in it, burned beyond the most sanguine expectation."

The Lackawanna river, taking its rise in the higher lands of Susquehanna and Wayne counties, breaks into the third coal field at the north-east end, and passing through the heart of the basin, unites with the Susquehanna at Pittston; or, rather, the Susquehanna unites with it—for it would appear more probable, that at a time long gone by, the Susquehanna has forced itself through the northern boundary, now termed the Dial mountain, above Pittston, and taken the course of the Lackawanna, emptying at the same time the contents of some vast lake above, into the Lackawanna and Wyoming vallies; thus covering the whole coal formation with its present rich alluvial deposite. This hypothesis is strengthened by the facts, that the alluvial soil is found to extend up the valley of the Lackawanna nearly as far as Carbondale, and, it is believed, upon the same elevation with the mountain barrier below Shickshinny creek, where the Susquehanna, pursuing the course of the Lackawanna, breaks through the southern boundary; and which, it is supposed, may have dammed back or retained, for a time, the contents of the lake. The soil toward the lower end, as at Shawny flats, &c., is finer, or of a more loamy and sandy nature; while farther up, as between Kingston and Dial mountain, where the Susquehanna enters the coal field, and where the less buoyant particles of the sediment may be supposed to have first settled, the deposite is more gravelly and stony. Advancing up the Lackawanna, the soil gradually becomes thinner until we reach Carbondale, where there is not the slightest appearance of alluvial soil, and where the natural face of the country assumes a character similar in all respects to that of the first and second coal fields.

The river Susquehanna breaks through the northern boundary of this field at Pittston, about ten miles above Wilkesbarre, and pursuing its way through the middle of Wyoming valley, it passes lengthwise through the centre of the coal range, until it reaches the mouth of Tilberry creek, or the Nanticoke falls, a distance of about nineteen miles. It here passes out of the field to the north, and breaking through or rather severing lengthwise the northern boundary for the distance of several miles, to the mouth of Shickshinny creek, it there again turns to the south, again enters the coal field, and running across it, passes through the southern boundary, leaving undisturbed the western end of the coal deposite. Several successive beds of coal have been opened in the mountain at this point, by Nathan Beach, Esq., the strata appearing regular and uninterrupted. The third field here terminates, falling off into a *red shale* basin at the *Knob mountain*, near Fishing creek, in Columbia county, and not as has generally been supposed, at the falls of Nanticoke.

The coal of this region has therefore been used from the year 1768 to the present time, by the people residing immediately on the Sus-

quehanna, its consumption gradually increasing with the growth of the country. It has hitherto been brought down in arks, containing each about sixty tons, and sold at different towns on the river; but the business was always considered a hazardous one, owing to the difficulties in navigating the river; and consequently the demand for coal remained limited, and its introduction partial. The Pennsylvania canal, designed in part as an out-let for the coal of Wyoming, was commenced and is now nearly completed to the mouth of the Lackawanna, passing a distance of about twenty-five miles through this coal range. If intended to rest at this point, it were unwise to incur so useless an expense, particularly so long as there was no suitable outlet to the Chesapeake, and when it was known too that the coal of Lykens' valley, Mahanoy and Shamokin, would abundantly supply the home market of the Susquehanna. But, it was originally designed as a measure of great state as well as national policy—one that as early as 1808, had engaged the attention of the statesmen of New York, Pennsylvania and Maryland, as the best and only practicable route for the opening of a continuous water communication from the Atlantic to the great northern lakes; and the only error now to be wept over is, that the State did not commence the canal at the mouth of the Lackawanna, and prosecute it up the river to the New York line. It would there, at the distance of eighty-three miles, have intersected the improvements of that State, and afforded an avenue for our coal to a most extensive and rapidly increasing market. This work ought not for a day to be delayed, but prosecuted to final completion. There is nothing wanted to create a vast and permanent demand for this fuel throughout the whole western territory of New York and of the lakes, but facilities for furnishing a supply. Coal, during the past and present seasons, has been hauled in sleds and wagons from this district, a distance of eighty miles and upwards into the State of New York, and sold in some instances for *twenty* dollars a ton. The iron works of a Mr. *Williams*, of Jamestown, at the south-east end of Chataque lake, is now supplied with Lackawanna and Mauch Chunk coal, which is transported from the city of New York to Albany, 160 miles—from Albany to Buffalo, 300 miles, and thence hauled in wagons to Jamestown, 70 miles, and within seven miles of our State line. If we add the distance from Carbondale to New York, 217 miles, we have a total distance of 747 miles from the mines to the place of consumption. This fact demonstrates as well the utility of canal transportation, as the value of this mineral.

The North branch canal is rather a national than a state work, and one to which the funds of the national government might with great propriety be applied. The great importance to the nation of an internal water communication from the lakes to the Atlantic need not be told; and if the enterprising citizens of Pennsylvania and New York, who are now agitating the question of improving the Susquehanna for sloop navigation would view the subject in this light, and bring it fairly before Congress, the strongest hopes might be entertained that the national government, with her overflowing treasury,

would be induced to take up the work where Pennsylvania, in consequence of the present pecuniary embarrassments seems disposed for a time to leave it. The facilities for conveying coal to our eastern markets are sufficient for the present demand. This communication completed, and the Lehigh navigation owned by the state, our chain of improvements in the north would soon be complete; and who cannot, knowing the vast resources of the country, predict the new tide of prosperity which in that event would flow over that section of our Commonwealth.

A rail road from the Lackawanna, by Starucca creek, to Harmony in Susquehanna county, designed to connect with the Utica and Binghamton or Chemung canal, is projected, and it is believed will be constructed. This will afford a direct and advantageous out-let to the north for the coal of the Lackawanna. During the past season two thousand five hundred tons of coal were conveyed by this route in sleds, and sold at various places in the interior of New York, for about sixteen dollars per ton. It is estimated that there exists now in the western part of New York a market for at least one hundred thousand tons of coal yearly. If this demand could be supplied, there would in a very few years be a market for double and treble that quantity.

It only remains for the committee to notice, in connection with the third coal field, one of the most important improvements, considered in reference alone to the coal interests, in the union. In 1822, *Maurice* and *John Wurts*, conceiving the bold and expanded project of constructing a rail road and canal from the coal beds on the Lackawanna, near the eastern termination of the field, to the North river in the state of New York, obtained in 1823 and 1825, acts of incorporation, and succeeded in forming the Delaware and Hudson canal company, who undertook, and completed this Herculean enterprize. The country was then a dense and apparently impenetrable wilderness. The footstep of man had scarcely marked the spot where is now erected the flourishing and beautiful village of Carbondale, containing a population of twenty five hundred souls. The Moosick mountain, towering eight hundred and fifty-five feet above the level of the Lackawanna, which to ordinary minds would have presented an insurmountable barrier, and bid defiance to individual enterprize, dwindled in the eye of science to a mole hill, and presented no impediment in the way of a powerful and adventurous company. They have constructed a rail road from the Lackawanna to the Lackawaxen a distance of sixteen miles, overcoming the mountains by means of eight inclined planes—"five of them ascending planes, worked by stationary steam engines, and three of them descending planes, acting by gravity." From the termination of the rail road at Honesdale, in Wayne county, (another town which has sprung up solely under the auspices of the Company, and now containing fifteen hundred persons) a canal is continued down the Lackawaxen to the Delaware, and from thence through the state of New York to Rondout, on the North river, ninety-four miles above the city of New York, a distance

of one hundred and seven miles. Whole length of canal and rail road, one hundred and twenty-three miles. This work was completed in 1829, at an expense of two millions three hundred and five thousand five hundred and ninety nine dollars and fifty three cents, and in the various results produced, furnishes one evidence of benefits conferred by an incorporated company, which would otherwise never had existence; and exempts this company from the general objections resting against corporate bodies, having mining and trading privileges. Without an act of incorporation, and the inducements of mining privileges, this country, now filled with an active and enterprising population, and furnishing one of the best markets in Pennsylvania, would have remained for many years perhaps a barren waste, and possibly it would not be going too far to say that the coal of Lackawanna would never have found a market by this route, or in this direction. Like the Lehigh company, they have disregarded the great mountain barriers, dividing the waters of the Susquehanna and the Delaware, and conducted the coal of the third field from its natural, but more circuitous channel, directly to the city of New York, and the other increasing markets of the east and the north. In 1833 this company sent to market, one hundred and eleven thousand seven hundred and seventy-seven tons of coal, and made a dividend of seven per cent upon their capital.

This work affords also a new outlet for the vast lumber trade of the northern counties. During the last year, about five millions of feet of lumber were conveyed upon the rail-road from Carbondale to the Lackawaxen and the Delaware, where it is rafted down the river. But, the committee are prevented from performing the pleasing task of dwelling longer upon this noble work, and its general beneficial effects upon the prosperity of the country in which it is located, by the very interesting letter of *John Wurtz*, esquire, president of the company, inserted in the appendix, No. 22, and to which the Senate is respectfully referred.

It is impossible now to form an estimate of the small quantities of coal that have been conveyed in arks down the North Branch of the Susquehanna. Recently, and since the completion of the Pennsylvania canal, preparations have been made for carrying on the business more extensively. The Baltimore company have purchased several of the most valuable beds in the vicinity of Wilkesbarre, and contemplate the construction of rail-roads from the mines to the canal. The Plymouth mines are extensively opened, about ten thousand tons having been sent from them to market during the last year.

The whole amount of coal mined in this part of the third coal field and sent to market by the river and canal, and used for home consumption has been estimated at 30,000 tons.

By the Delaware and Hudson company,	111,777
Home consumption, used in steam engines, and sold at intermediate places,	20,000
Total in third field,	161,777 tons.

The following estimate of the value of property employed in the coal trade and towns consequent upon it, is believed to be not materially erroneous :

Colliery establishments, utensils, horses, &c.,	$90,000
Canal boats and rail-road cars,	157,500
Carbondale,	250,000
Honesdale,	125,000
Capital invested in coal lands, &c.	240,000
Total,	$862,500

To the above may be added the value of vessels employed in the shipping of coal, *nine hundred* of which were loaded at Rondout, during the last year.

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The three anthracite coal deposites of Pennsylvania are about sixty-five miles in length, and five miles in width, embracing an area of three hundred and twenty-five square miles, or two hundred and eight thousand acres each, making an aggregate of nine hundred and seventy-five square miles, or six hundred and twenty-four thousand acres. Some of the lands in the first district are worth three and four hundred dollars an acre—others are of less value, and some parts worth little or nothing. The lands in the third field, being generally valuable as well for mining as agricultural purposes, may be valued at an average rate of thirty dollars per acre; and taking the whole three districts together, it is believed twenty dollars per acre is not too high a valuation. At this rate, our anthracite coal fields are worth twelve millions, four hundred and eighty thousand dollars.

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Estimate of the value of improvements, and property connected with and consequent upon the anthracite coal trade of Pennsylvania in the three great coal fields :

Rail-roads and canals made by companies and individuals, including also parts of the state canals, four hundred and eighty-nine miles.	$9,750,937 42
Collieries, boats, cars, &c. &c.	1,270,280 00
Capital invested in coal lands,	4,900,000 00
Mining capital,	480,000 00
Value of towns in the coal fields,	3,375,000 00
Total,	$19,176,217 42

To the above may be added the value of store houses, wharves, landings, &c. &c. in Philadelphia, New York, and other places ; and also the value of vessels, and capital employed in shipping coal. The additional value of coal, after leaving our ports, is to be offset against the interest of this sum.

Whole quantity of anthracite coal mined and sent to market in Pennsylvania, during the year 1833.

From the first coal field	429,933 tons.
" " second do.	500 "
" " third do.	161,777 "
Total,	592,210 tons.

In forming an estimate to ascertain whether the profits on this quantity of coal will pay the interest of the sum invested in the business, the cost of coal lands now occupied, and railways and canals constructed should alone enter into the calculation. Large bodies of coal lands, particularly in the second field have been purchased, and large sums of money invested, not with the view of immediate, but future profit. That portion of the state improvements, included in the above statement should also be omitted, as they depend alike upon other sources for tonnage. The coal above stated has drawn from the community the average sum of five dollars per ton, or a total of two millions, nine hundred and sixty-one thousand and fifty dollars. The actual expense of mining and transporting five hundred and ninety-two thousand, two hundred and ten tons of coal may be estimated at four dollars per ton, amounting to two millions, three hundred and sixty-eight thousand, eight hundred and forty dollars. This expenditure, however, includes the tolls upon the improvements, which are not a charge, but constitute receipts upon the capital invested. It is, therefore, proper, as interest is calculated upon the sum invested in the canals and rail-roads, to omit the item of tolls, which would allow on each ton of coal about two dollars over and above the expense of mining and transportation, thus:

	Cost.	Interest at 6 per cent.
Canals and rail-roads,	$5,781,394 22	$346,893 65
Coal lands in use,	1,740,000 00	106,400 00
Total	$7,521,394 22	$453,293 65
Profits on 592,210 tons of coal at $2 per ton		$1,184,420 00
Excess of profits beyond the interest,		$731,126 35

Again, if we take the whole sum of nineteen millions, seven hundred and fifty thousand, nine hundred and twenty-seven dollars, including the cost of portions of the state improvements, and the value of the towns, the interest at six per cent will amount to the sum of

	$1,186,573 02
Deduct profits on 592,210 tons of coal	1,184,420 00
Deficiency to pay the interest on the whole sum invested only	$2,153 02

THE BITUMINOUS COAL FIELD OF PENNSYLVANIA.

Nature, in the disposition of her bounties, seems to have bestowed upon Pennsylvania more than a due proportion of the treasures of the mineral kingdom. Great and valuable as are her anthracite deposites, and rich and abundant as are her mines of iron ore and other minerals, her bituminous coal region is still more extensive and inexhaustible.

The great secondary deposite, extending as it is generally believed from the Hudson to the Mississippi, and to the Rocky mountains, is in Pennsylvania limited by the Allegheny mountain, which appears to form the barrier or dividing line between the anthracite and bituminous coal beds, or between the transition and secondary formations. The union or junction of these formations is plainly and distinctively marked in the ends of the mountain where the west branch of the Susquehanna breaks through it, above Bald Eagle, the latter resting against the former, and forming the basin in which the bituminous coal, in regular and successive strata is deposited. This coal field is, therefore, confined to the west side of the Allegheny, and is supposed to extend to the centre of the mountain. In the south east corner of Somerset county, in Southampton township, and in the western parts of Bedford and Huntingdon counties, it would appear to extend to the south east of what is there called the Allegheny, and occurs in great abundance on *Will's creek*, *Jenning's creek*, *Gladwin's run*, &c. emptying into the Potomac. The chain of mountains called the Allegheny, above Bedford, is very wide, and large mountains diverge from it; and although the mountain running through Somerset, and dividing the waters of Youghiogeny and Conemaugh from those of the Potomac, may be the largest, it seems most probable that *Well's* or *Evett's* or possibly *Sideling* mountain, there forms the boundary of this deposite, and upon examination will be found to exhibit a continuation of the same characteristic feature between the secondary and transition formations.

The bituminous coal beds vary from one foot to twelve feet in thickness, but rarely exceed six feet. They lie in nearly horizontal strata, with about sufficient dip to free the mines from water. Some hills contain three and four beds, with alternate layers of earth and slate, and rest between a firm and smooth slate roof and floor. *Faults* or *troubles* are seldom met with, and in this they differ from the anthracite, and go far to confirm the opinion, that all this vast extent of secondary rocks was once the bottom of a great lake or sea, and that it suffered little if any interruption from the gradual discharge of its waters through its distant and widely extended boundary. It has evidently been drained by the Mississippi, the St. Lawrence, the Susquehanna and the Hudson; and it is a curious and interesting fact that near the northern termination of this coal field, in Potter county, the head waters of the Allegheny, the Susquehanna, and the Gennessee rivers, flowing into the gulph of Mexico, the Chesapeake and the St Lawrence, take their rise in an area or space of about five miles.

With the exception of the Susquehanna and its tributaries, and Will's creek emptying into the Potomac, all the streams rising in the coal field, west of the mountain, flow into the lakes, or into the Ohio river, and consequently the ground falls off or recedes in the same direction and becomes too low, as it is generally supposed, to contain the coal measures. Its northern termination or boundary, may be traced from the head waters of Towanda creek, in Bradford county, thence across the high lands or dividing waters of Tioga, Potter, M'Kean, Warren, Venango, &c. to the Ohio state line. The Tioga river and its tributaries penetrate the coal field in the vicinity of Blossburg and Wellsborough, in Tioga county. A recent and interesting mineralogical report upon this region has been made by *R. C. Taylor*, a practical engineer and geologist, for the Blossburg rail-road company, in which it is satisfactorily shown that the coal runs out as the streams decline to the north. "There would need (says the report) a total height of mountain of five thousand, one hundred and twenty-five feet at the state line, between New York and Pennsylvania to contain the coal measures; whereas, the hills there are probably below six hundred feet altitude. This calculation is entered into with a view of showing the futility of the expectation, not uncommonly expressed, of tracing these coal beds in a northerly direction beyond the limits at which they are at present discoverable."

This field, being bounded on the south by the Allegheny mountain, extending into the state of Virginia, and westward, coal may be said to be present, to a greater or less extent in all the western counties, with the exception of the county of Erie, in which it has not yet been discovered. The counties of Bradford, Lycoming, Tioga, Potter, M'Kean, Warren, Crawford, Bedford, Huntingdon, and Centre, lie partly in, and partly out of the coal field. The counties of Allegheny, Armstrong, Beaver Butler, Cambria, Clearfield, Fayette, Greene, Indiana, Jefferson, Mercer, Somerset Venango Washington, and Westmoreland are wholly within its range, and embrace together an area of about *twenty-one thousand* square miles, or *thirteen millions, four hundred and forty thousand acres.*

The west branch of the Susquehanna, taking its rise in Cambria and Jefferson counties, passes through the heart of the rich coal deposites of Clearfield county, and breaks through the Allegheny mountain above the mouth of Bald Eagle, thus affording an outlet to the eastern markets for the coal of that region. It is navigable for arks from the Cherry tree, or mouth of Chest creek, in Clearfield county, one hundred and twenty-five miles above the present termination of the Pennsylvania canal, at Duinnstown. Pine creek, and Lycoming creek, have also their source in the coal field, and afford outlets for the coal to the Susquehanna; and to these three points we must look, mainly, for our eastern supplies of bituminous coal.

From the first settlement of Clearfield county to the present time, coal has been brought down the Susquehanna in arks, and sold in small quantities at the different towns on the river, in Lycoming, Northumberland, Union, Dauphin, Cumberland, York, and Lancaster

counties, for the supply of the blacksmiths who have always preferred it, for most purposes, to charcoal. The late *Samuel Boyd* of Lancaster, now deceased, was among the first who conceived the idea of furnishing this coal to the eastern market, and as early as the 1st November, 1785, took up and patented in the then new purchase from the Indians, a tract of land on the margin of the river, about three miles above Chincleclemoose, now Clearfield town. There is a hill or steep precipice on this land, jutting into the river, containing several successive strata of coal, which can be shovelled out of the mines into the ark. This may also be done in many other places along the river. His son, *William Boyd*, Esqr. at present a member of the Senate, from the city, in the adventurous enterprise of youth, in the year 1803, visited the spot, and procured an ark load of the coal to be sent in the spring of 1804, by the river to Columbia, a distance of two hundred and sixty miles. This was the first ark load of coal that passed through the Conewago falls to Columbia. The committee have been favoured with an interesting letter upon this subject from Mr. Boyd, [vide appendix No. 23.] About the same time a Mr. John Jordan, of Clearfield, sent down an ark load of coal, taken from a bed forming the pavement or bottom of the river, about a mile above Clearfield town. From that time to the present the business has been followed by many of the inhabitanst of Clearfield as a means of subsistence. The building of arks and mining of coal, occupy them during the winter seasons, and the product of their labour is floated to market by the spring freshets. At that time coal was mined by uncovering or *stripping*, as it was generally termed, which process was performed by taking off the whole of the superincumbent earth, and removing the roof from the coal bed. At present, the business is better understood, and is performed by tunneling, or undermining.

In 1813, Mr. *P. A. Karthaus* established coal works at the mouth of Little Mushannon creek, and engaged in the business extensively. In 1828, he succeeded in taking a quantity of coal to Philadelphia, having conveyed it to Port Deposit in an ark, and thence in a sloop by the Chesapeake and Delaware canal. This was the first ark load of bituminous coal taken to the city from the Susquehanna, and was sold readily at thirty-three cents per bushel. Mr. Karthaus also took a quantity of coal to Baltimore, where its qualities were fully tested. It was found to possess all the properties of the best bituminous coal, producing the finest coke, as well as hydrogen gas. Since the opening of the Union canal, a considerable quantity of this coal has found its way to the Schuylkill and to Philadelphia.

Coal has been used for fuel and manufacturing purposes, west of the mountain, from the earliest settlement of the country. It is mined to a greater or less extent in all the above counties, at the rate of one cent and two cents per bushel, and is thus brought within the means of all, and literally to every man's door. It is also transported in considerable quantities in arks or flat-bottom boats down the Ohio river to Cincinnati, New Orleans, and the intermediate places, and sold at twenty to thirty and forty cents per bushel. Abounding throughout

all this vast extent of territory, and freely used for almost every purpose requiring heat or caloric, it is impossible to form any thing like a correct estimate of the quantity consumed yearly and sent to market. That its great abundance and cheapness have given birth to the vast and widely extended manufacturing establishments of the west, there can be no doubt. Without coal they could not exist. It constitutes the life-spring of western Pennsylvania, and the pedestal of our great manufacturing emporium. Pittsburg and its environs contain the number of *ninety* steam engines, for the various manufactories of iron, steel, glass, cotton, woollens, salt, brass, white lead, flour, oil, leather, paper, edge tools, wood turning, steam apparatus, &c. &c. These steam engines, according to an authentic statement recently compiled and published in the Pittsburg Gazette, consume monthly one hundred and seventy two thousand, one hundred and fifty-two bushels of coal, or two millions, sixty-five thousand, three hundred and six bushels a year. These engines are equal in power to that of two thousand, five hundred and ninety-six horses, and employ in the manufactories alone, two thousand, one hundred and thirty hands. The number of hands engaged in mining and hauling coal is not given. The quantity of coal consumed in the city for domestic or family purposes, and in manufactories in which steam power is not used, can only be arrived at by general, and of course not very accurate computation.

The city of Pittsburg and its suburbs, Allegheny town, Birmingham, &c., contain a population of thirty thousand souls. These, divided into families of five persons, will constitute six thousand families or dwellings. Some of these contain four, five, six, and seven fires or grates, and none less than one; and it is believed the average is not less than three. Each fire will consume two hundred bushels of coal a year, which, by this computation, will produce three millions six hundred thousand bushels, as the quantity consumed by families. The quantity consumed in stores, offices, public buildings, schools, shops, churches, steam ferry boats, and by blacksmiths, and manufactories not using steam power, has been estimated at about two millions of bushels. This would give an aggregate quantity of coal consumed annually, in and adjacent to Pittsburg, of seven millions six hundred and sixty-five thousand three hundred bushels, or two hundred and fifty-five thousand five hundred and ten tons. At four cents per bushel, or one dollar and twenty cents per ton, the price at which it is now delivered in Pittsburg, this would amount to three hundred and six thousand five hundred and twelve dollars.

The quantity of coal consumed in the manufacture of salt, in the western counties, is also very great. There are, on the Allegheny, Kiskiminetas, Connemaugh, Crooked creek, Mahoning, Saw-mill run, Brush creek, Sewickly, Youghiogheny and Monongahela, about ninety salt manufacturing establishments, and many others about going into operation. These establishments employ about six hundred hands, and produce yearly about *one million* of bushels of salt. Each establishment, with single pan, will consume *one hundred and seventy*-

five bushels of coal, making the whole amount consumed yearly in the manufacture of salt alone, *five millions and ten* bushels.

It requires no argument to prove that the bituminous coal region must soon become, as it now is to a great extent, the seat of the manufactures of Pennsylvania; unless, indeed, the coal or coke can be transported to the vicinity of the raw material as cheaply as the latter can be conveyed to the coal mines. In some instances this may be done, and in others it cannot; and therefore by these mutual reciprocities, exchanges and restrictions, the benefits of trade are conferred upon the community, and the State must soon derive her full share of the profits of the traffic, by revenues from her public works. Coal cannot be hauled from Pittsburg to Bellefonte, for the manufacture of iron, because it is cheaper to haul the blooms from Centre and Huntingdon to Pittsburg, where fuel is cheap and abundant. Trade, acting upon the principle of gravitation, and tending, like it, to the larger body or greater interest, will naturally be drawn to Pittsburg and other parts of the coal field. Greater facilities are afforded here for carrying on an extensive manufacturing business, than in any other section of the country. This fact will prove the propriety and necessity of an early completion of the proposed improvement to connect the Pennsylvania and Ohio canals, by which the trade of the west may be drawn to our manufactories, its profits secured, and facilities afforded for supplying the raw material, and of manufacturing it within our own State.

The effect of the use of coal, in the manufacture of iron, is strikingly illustrated by the facts, that in England, in the year 1619, there were three hundred furnaces, producing annually six hundred tons of pig-iron each, or a total of one hundred and eighty thousand tons; and that owing to the scarcity and rapid diminution of wood, the quantity manufactured in 1740, after a period of one hundred and twenty-one years, had decreased to seventeen thousand three hundred and fifty tons, and the number of furnaces to fifty-nine. But, mark its succeeding history: In 1752, the process of coking bituminous coal, which had frequently been attempted before, now succeeded, and coke was generally introduced. In 1788, there were eighty-six furnaces, producing sixty-eight thousand three hundred tons: In 1796, the quantity made was one hundred and eight thousand seven hundred and ninety-three tons: In 1820, four hundred thousand tons; and in 1829, seven hundred thousand tons.

Will not the same causes produce the same effects in the United States? The present high price of iron, is owing mainly to the high price of fuel—the expense of cutting, charring and hauling wood, which in many iron districts has entirely disappeared. The coking process is now understood, and our bituminous coal is quite as susceptible of this operation, and produces as good coke as that of Great Britain. It is now used to a considerable extent by our iron manufacturers in Centre, and elsewhere. There is nothing to prevent us from becoming a great and powerful manufacturing people. We have all the minerals, all the natural productions, and all the varieties of

soil and climate necessary to the cultivation of the mechanic arts, and for the manufacture and supply of the leading and most essential articles of consumption.

This view of the subject, leads the committee to the consideration of the question, whether the bituminous coal of Pennsylvania can be brought into general use east of the mountains, for manufacturing purposes, and transported to our eastern markets upon such terms as to supersede the use of foreign coals, now used to a considerable extent on the sea-board. If this cannot be done, then may we yield to the pressing importunities of some of our sister States, for the repeal of the duty on foreign coals, and receive our supply from foreign lands: and then, indeed, must it be admitted, that Pennsylvania has constructed the Susquehanna and West Branch canals, at an expense of two millions and forty-eight thousand dollars, to little purpose.

Memorials have again been presented to Congress, for the repeal of the duty on Liverpool and Nova Scotia coals. In 1831, a similar application was made, and the memorialists then complained generally of the scarcity of fuel, and its high price; Schuylkill coal being, in the language of the memorials, "nominally sold at sixteen dollars per ton, and other anthracite coals in proportion; and Liverpool coal, which had been usually sold at from nine to twelve dollars per chaldron, being then with difficulty procured at sixteen to seventeen dollars." They now complain, not so much on account of the high price and scarcity of fuel, as that the city of New York, consuming about five-sixths of all the foreign coal imported into the United States, is compelled to pay five-sixths of the tax or duty collected; and that, "on account of the high duty, the advantage of carrying on the coal trade from Liverpool and Nova Scotia is so trifling, as to offer no encouragement to mercantile men to engage in it." They add:—"It cannot be doubted, that *if this duty were once removed, a* LARGE SUPPLY *of this valuable commodity would immediately be brought into market*, AT A REDUCED PRICE, which would not only enable those who prefer it to the anthracite coal to use it, but would also bring the anthracite coal more easily within the means of the large mass of consumers, thus benefitting the community at large, and enabling the poorest individual to enjoy the comfort of a fire-side." Nothing is said in the memorial, relative to the bituminous coal of Virginia and Pennsylvania, nor of the injurious effect that this repeal would have upon the interests as well of those engaged in our anthracite coal trade, as upon the exertions now in embryo, to bring our bituminous coal into market.

In 1815, when the duty on foreign coals was three dollars and sixty cents, the price in New York was twenty-three dollars the chaldron (thirty-six bushels.) From 1816 to 1823, inclusive, during which time the duty was one dollar and eighty cents, the average price was about eleven dollars. From 1824 to the present time, the duty has been two dollars and sixteen cents, and the average price about fourteen dollars. For the last twenty years, the average price has been about twelve dollars and fifty cents, and therefore it has not va

ried in proportion to the Tariff, nor does it appear to have been influenced by the rates of duty—for, in 1821, when the duty was one dollar and eighty cents, the price of coal was fourteen dollars; and in 1830, when the duty was two dollars and sixteen cents, the price was only eight dollars. The difference in price, it would seem, has been produced by other causes. From the year 1824 to the present time, the duty has been six cents a bushel, or one dollar and eighty cents a ton, and the average price during the same period, about ten dollars. If we deduct the duty, one dollar eighty cents, the cost would be eight dollars and twenty cents per ton. Whether this would be about the actual cost of importing a ton of coal from Liverpool or Nova Scotia, if the duty were repealed, the committee do not possess the means of ascertaining. The price heretofore seems to have been governed almost entirely by the scarcity or the demand for fuel. If, in 1830, when sales were made at eight dollars the chaldron, paying at the same time a duty of two dollars and sixteen cents, there was no sacrifice, it would appear that the actual cost of importation would be only five dollars and eighty four cents. A great portion of this coal being brought in as ballast, and not constituting a regular business, it has not assumed a settled price, nor can the actual expense be accurately known. Judging, however, from the rates at which it is now sold, it is manifest that an entire repeal of the duty might very materially affect the home trade, if not paralyze the exertions of our citizens to introduce our bituminous coal.

But, what cause have the memorialists now to complain? Anthracite is now selling in New York at five dollars and fifty cents, and five dollars per ton. Our means for furnishing a supply adequate to any demand are entirely ample, and it is not at all probable that the price of coal, as in 1831, will ever again rise to sixteen dollars. There is now in New York not only a sufficient quantity to supply the demand, but it is feared by our coal dealers that a large quantity will remain over. It would not therefore appear to be necessary to repeal the tariff in order to bring fuel "within the means of the labouring poor." In 1831, when fuel was scarce and dear, and when complaints against the tariff were loudest, one thousand tons of Schuylkill coal were offered to the corporation of New York at the reduced rate of four dollars and fifty cents per ton. The Nova Scotia mines, formerly owned by the duke of York, have passed into the hands of a company, some of whom it is said, reside in the United States; and hence it is believed that this application is rather prompted by a desire to engage in the foreign trade, even at the expense of our native resources, than for the purpose of procuring a cheaper fuel.

If, therefore, the actual expense of importing coal from Sydney and Pictou mines will not exceed five dollars and eighty-four cents per chaldron, exclusive of the duty of two dollars and sixteen cents, it is plain that in the present state of our improvements we cannot, if the duty be repealed, enter into competition with the foreign coal in the N. York market. When our internal improvements shall have been fully completed—our resources known, and sufficient capital embark-

ed to bring them to light, they will not require the aid of restrictive or prohibitory duties to bring them into general use. We need fear no competition, but may with confidence repose upon our facilities for transportation—the industry of our citizens and the superior quality of our coal.

The west branch division of the Pennsylvania canal terminates above the mouth of Bald Eagle, and will when completed, afford a continuous water communication from the opening into the coal field at Lick run and Tangascootack, to the city of Philadelphia. This point, being nearest to market, and immediately at the head of canal navigation, would seem to present the most favorable location for extensive operations in the coal trade. It has already attracted the notice of gentlemen of enterprise and capital residing in Boston and Philadelphia, to whom the state is greatly indebted for their exertions to introduce this coal into the manufacturing establishments of the east. A company has already been organized, under an act of incorporation, and are located near the mouth of Lick run, under the name of the Lycoming coal company. They have made extensive improvements—mined and sent to market by the river, several thousand tons of coal, and made preparations for carrying on an extensive business. The canal not having been completed, they constructed a steamboat for the purpose of towing their coal arks down and up the river, between their mines and Muncy, but were soon prevented from using it by the high dam erected in the river at Bald Eagle. Coal was used in this boat for generating steam, and it was found that one ton was equal to nearly four cords of pine wood. They have now mined, and lying upon the bank, waiting the completion of the state improvements, a large quantity of coal; and have made arrangements for sending to market, during the first year after the opening of the canal, from fifty to seventy-five thousand tons. This amount will soon be increased to one hundred thousand, which, passing as it will, over the entire extent of our public works to Philadelphia, will pay to the state in tolls at the rate of half a cent a ton per mile, upwards of one hundred thousand dollars.

Another company, not yet organized, are authorised by law to construct a rail-road from the mines on Tangascootack to the canal on the opposite side of the river, for the purpose of bringing down the coal of that valley. These companies have mining privileges, but as they have no controul over the navigation, which belongs to the state, and will always remain open to the free and equal use of her citizens, their operations it is believed cannot prove injurious to the interests of the people, but on the contrary will produce many benefits, by improving the country, and preparing the way to future and more extensive operations. A company has also been incorporated to construct a rail-road from Elmira in New York, to Williamsport, Pennsylvania, by the valley of the Lycoming, passing through the extensive coal deposites on the head waters of this creek, upon which also abound large quantities of argilaceous iron ore. This road will form an important connecting link between the improvements of Pennsyl-

vania and New York, besides furnishing facilities for transporting coal to the canals. The Tioga rail-road will connect the bituminous coal field near Blossburg, in Tioga county, with the Chemung and Erie canals, and afford an outlet as well for the iron of that valley, as coal to supply the salt works and other manufactories in the state of New York. The demand for this coal is rapidly increasing, and this company may enter the great northern market without either fear of competition at home, or of the reduction of the Tariff.

Another avenue will be opened from the bituminous coal field, by the Philipsburg and Juniata rail-road, designed to cross the Allegheny mountain, and to intersect the Pennsylvania canal at Petersburg, in Huntingdon county—distance from Philipsburg twenty-eight miles. The route has been examined by a competent engineer—reported to be practicable—the stock subscribed, and the work, it is expected will soon be placed under contract. This road, crossing the Allegheny mountain, hitherto considered an almost insurmountable barrier, interdicting to a great extent the trade of the east and west, will furnish the means of supplying the extensive iron works on the Juniata with fuel, as well as the more eastern markets, and also for the transportation of merchandize, to many of the north western counties. The committee have been favoured with the perusal of the first report of the president to the stockholders, from which they have taken some interesting extracts, relative to the use and general advantages of bituminous coal. [Vide appendix No. 24.]

Then, at what price per ton, can our bituminous coal, by these different communications, when completed, be taken to Philadelphia? The answer will determine whether we can successfully compete with the importers of foreign coal, and whether the present duty might with propriety be repealed:

As the Pennsylvania canal terminates at Dunnstown, and there enters the threshold or opening into the coal region, it is conceived that this is the point from which the estimates may be fairly made, for the coal of the Susquehanna; because it cannot be doubted that such facilities will be afforded by improving the river above by slack water navigation or otherwise, as will give to the vast mineral resources of Clearfield county equal accommodations, and enable them to enter the canal at this place upon equal terms. The committee have obtained various estimates from those acquainted with the business, and inserted in the appendix, from which it would appear that coal may be delivered from the Lycoming company's mines, at Philadelphia for four dollars and fifty-nine cents per ton, thus:—

Cost of mining and loading boats per ton,	$1,00
Toll to Columbia, 144 miles at half cent per mile,	72
Transportation and freight per ton,	1,37
Toll on rail-road at same rate eighty miles,	40
Transportation and freight,	1,10
Total,	$4,59

Other estimates are made by the Union and Schuylkill canals, and also by the proposed rail-road from Middletown to Lancaster, (which

would be the shortest route) but are not materially different from the above. Mr. *Philips*, president of the Philipsburg and Juniata rail-road company, estimates the cost from the mines, by their rail-road, the Pennsylvania canal, the Union and Schuylkill canals, at four dollars and ninety-seven cents per ton. Mr. *Karthaus* estimates the cost of "Karthaus coal" at five dollars per ton—others at five dollars twenty-five cents, and five dollars fifty cents. If we adopt the highest estimate, and add the expense of shipment from Philadelphia to New York, one dollar per ton, the total cost at the latter place will be six dollars and fifty cents. The shipment to Boston will cost one dollar and fifty cents, making seven dollars per ton. It is manifest, therefore, that the imposition or repeal of a duty of one dollar and eighty cents, cannot fail to affect the trade very materially; and if repealed at the present time might discourage those who are making preparations to enter largely into the business. Inland navigation is free from many difficulties and risks to which that of the atlantic is exposed; and it is believed that upon the completion of our public works, such facilities will be afforded, by a suitable reduction of tolls, as to enable us to deliver coal at Philadelphia upon such terms as to make it the interest of the consumers on the sea board to purchase at home rather than abroad. The Chesapeake and Ohio canal, if completed to Cumberland, in Maryland, will open an avenue through which the coal of Somerset county will find its way to the south. A continuation of the Susquehanna canal from Columbia to Port Deposit would place the coal of Lycoming, Centre, and Clearfield in the field of open competition for the southern markets.

The quantity of foreign coal imported into the United States, during the last year was eighty-four thousand, one hundred and forty-four tons, which, if supplied from our own mines, would have distributed more than half a million of dollars among our own citizens, and paid in tolls to the state, not less than one hundred thousand dollars. The amount of importation is no doubt greatly limited by the protective duty.

The committee having thus brought into view such facts as in their judgment demonstrate our ability to supply any demand for bituminous coal, either in the United States or elsewhere, will not swell their report by comment. Believing that the interests of the country, and particularly those of Pennsylvania would be injured by throwing open our ports to the free ingress of foreign coal, they respectfully recommend to the Senate the adoption of the resolution already offered by their chairman, and submit the question with entire confidence to the wisdom and patriotism of the national Legislature.

Extent of Coal Lands in Pennsylvania.

	Square miles.		*Acres.*
Bituminous,	21,000	or	13,440,000
Anthracite,	975	"	624,000.

Having thus hastily sketched the past and present history of the coal trade and its incidents, the committee may be indulged in a remark upon the future.

The average increase of consumption, from the commencement of the anthracite coal trade in 1820, has been a fraction more than thirty-three per cent., or an increase of one-third yearly. There is every reason to believe that the increase for the ensuing ten years will be in the same ratio. Coal is even yet used by comparatively a small portion of our population. The value of fuel, including wood and coal, required for consumption in the cities of Philadelphia and New York, in the year 1830 and 1833, was as follows:

	New York city.	*Philadelphia city and county.*
In 1830—Average value of wood of all kinds.	$493,085 86	$612,102 13
" Coal anthracite and bituminous and charcoal.	321,731 86	308,400
	$814,817 71	$920,502 13
1833—Wood of all kinds,	$631,250 00	$741,321 18
" Coal of all kinds,	496,180 15	404,401 00
	$1,187,430 15	$1,145,722 18

The annual consumption of wood in the two cities amounts in value, therefore, to one million, three hundred and seventy-two thousand, five hundred and seventy-one dollars and eighteen cents: And it is a little singular that, notwithstanding the consumption of coal has greatly increased, there has been no diminution in the consumption of wood. The consumption of the former has, perhaps, about kept pace with the increase of population. In time, however, wood must give place in a great measure to coal as an article of fuel; and if now used alone, there would be a demand in these two cities for an additional quantity of about three hundred thousand tons.

The population of the city and county of Philadelphia in 1830, was one hundred and eighty-eight thousand, seven hundred and ninety-seven souls, and may now be estimated with safety at two hundred thousand. Dividing the cost of fuel (one million, one hundred and forty-five thousand, seven hundred and twenty-two dollars,) by the population, (two hundred thousand,) we have the average cost of fuel for each inhabitant, *five dollars and seventy-two cents.* If coal were to supersede entirely the use of wood, this population would save annually about five hundred thousand dollars.

If the annual consumption of coal for the ensuing ten years should be in the same ratio as that of the ten years past, the increase will be as follows:

1833	592,210	tons at	$5	per ton.	$2,961,050
1834	789,613	"	"	"	3,948,065
1835	1,052,280	"	"	"	5,261,100
1836	1,403,040	"	"	"	7,015,200
1837	1,870,713	"	"	"	9,353,555
1838	2,494,284	"	"	"	12,471,420
1839	3,325,712	"	"	"	16,628,560
1840	4,434,282	"	"	"	22,171,410
1841	5,912,377	"	"	"	29,561,880
1842	7,883,168	"	"	"	39,415,840
1843	10,510,890	"	"	"	52,544,450

Let us suppose that the reality shall be found to amount to only half of the above quantity, we shall still have an annual trade, in 1843, of the value of *twenty-six millions, two hundred and seventy-seven thousand, two hundred and twenty-five dollars.* Who can contemplate the influence of a trade of such magnitude, or set bounds to our march of prosperity and greatness? The coal business at present constitutes by far the largest portion of the coasting trade of Great Britain. Upon the resources of Pennsylvania will in a few years be found to depend in a great measure not only the manufactures, but the commerce of the Union; and if ever that unhappy day should arrive when this Union shall be severed into fragments, (which may Providence in his wisdom avert,) Pennsylvania will have less cause than any other state to dread the separation; for, relying not alone upon her reserved rights, but her native resources—and looking back upon her firm and devoted attachment to the institutions of the country, the patriotism and wisdom of her statesmen, and the policy of her laws; she will have it in her power to exact tribute from all the other states or empires, and even from other portions of the world, for the treasures of her mines.

It only remains for the committee, in the language of the resolution referred to them, to speak of "the effect of incorporated companies, having mining and trading privileges, on the progress of the business, and the improvement and prosperity of the country." These may readily be discovered by an examination of the facts contained in this report. That they have generally been beneficial, is obvious. They have been mainly instrumental in introducing the use of anthracite coal; and in the "progress of the business," they have contributed largely to furnish a constant and regular supply, by which the demand for coal has been increased, and the community accommodated at a fair and reasonable price.

With the exception of the grants to the Delaware and North American coal companies, made by the last Legislature, under peculiar circumstances, mining privileges have never been granted where mining alone was the object of the association, but for considerations of a secondary nature, and as inducements to companies to accom-

plish what have been regarded as greater public objects. Neither the Lehigh navigation, by which coal was first introduced into Philadelphia, nor the Delaware and Hudson canal and rail-road, would have been made without this inducement; and it must be admitted that the "improvement and prosperity of the country" have been thereby greatly promoted, and to a much greater extent than if they never had been made. It does not follow, however, that if these improvements had been made, without those privileges, and as great public highways for the general accommodation of the country, they would not have been more useful, and more conducive to the public weal.

The principle upon which corporate powers are conferred appear to be well known, and the policy of the Legislature to have been long established. They have been conferred when deemed necessary to promote objects of a public nature, and for the purpose of developing new and untried enterprizes which may be supposed in their results to confer public benefits, but never where the object is exclusively private, and where individual means can be more appropriately applied. In 1806, application was made to the Legislature by the "Pittsburg Carpenter's Society", for an act of incorporation. The petition was referred to a committee of which Mr. *Lacock* was chairman, and whose report unfavourable to the object was adopted by a *unanimous vote* of the House of Representatives. It was then declared by the Legislature, that "whatever might tend in the remotest degree, to establish preferences among any class of citizens engaged in any art, trade, or manufacture, or to destroy a just competion; or which in any shape, might encourage the least kind of monopoly, should be carefully avoided in a republican government, having for one of its great leading principles, that of an equality of rights."

There is at this day no greater necessity for conferring corporate powers upon a class of men to mine coal, than there was at that day to enable a society of carpenters to plane boards, or of farmers to plough their lands. Canals and rail-roads are now completed to a sufficient extent, particularly in the first coal field, for present purposes, and every man of sufficient means to purchase a tract of coal land, may engage in the business and prosecute it with ample success, regardless alike of risk and uncertainty as of corporate privileges. The business can now be brought entirely within the controul of individual means, and individual enterprize. A large number of mines are worked by tenants, who send to market yearly from two to six thousand tons of coal, and employ a capital of less than fifteen hundred dollars. A "respectable colliery establishment," including the price of a tract of coal land, has been estimated at about ten thousand dollars.

Coal land,	$3,500
Opening mines, wagons, &c.	3,000
Boats,	2,500
Working capital,	1,000
Total	$10,000

Mines are now extensively opened, and the many difficulties and expenses incident to the business are overcome. All the coal dealers agree, that with the mines now opened and improvements made, double the quantity of coal could have been sent to market during the last year, had there been a demand for it.

But, notwithstanding individual means may be adequate to prosecute the coal trade, without charters of incorporation, it may be well doubted whether, if the demand for coal continue to increase in the same ratio for the next ten years, attempts may not be made here, as in England, to monopolize the business—and whether here as there, it may not ultimately pass into the hands of rich capitalists. A large business will of course require a large capital; and if, in the pursuit of honest industry one class of citizens should become wealthy and amass large fortunes we cannot and ought not to deprive them of the advantages of their wealth; but, the Legislature may and ought to prevent them from uniting with these advantages artificial powers and distinctions which may, if improperly exercised, make "the rich richer and the poor poorer." The more diffused and widely spread are the operations, the greater will be the advantages to the public, and the less the liability to a consolidation or monopoly of trade; and if ever this spirit should manifest itself by endeavouring to monopolize coal lands, it may become necessary for the purpose of preserving divisions of labour, and to keep down monopoly, for the Legislature to authorize limited partnerships, with limited capital, limited parcels of lands, and so restricted in other respects as to promote the very objects for which individual coal dealers now so laudably and legitimately contend. That even corporations could be erected, and with these advantages, cannot be doubted. A corporation in law is just what the incorporating act makes it. It is the creature of the law, and may be moulded to any shape or for any purpose that the Legislature may deem most conducive to the general good. It is hoped, however, that a necessity for such acts may not occur; nor should they ever be conferred as a matter of convenience or for private benefit, but as a matter of the direst necessity and for the common good of the community. Natural liberty and human action should be no farther restrained by legislative enactment than is consistent with, or indispensible to the purposes of civil society and republican government; and every citizen, suffering no greater restraints than it may be absolutely necessary for him to yield to these purposes, should be allowed freely to pursue his own true and substantial happiness. Too much legislation is more to be dreaded than the entire want of it. The maxim is true, that "the world is governed too much."

It has been said that charters were granted to the Delaware Coal Company, and the North American Coal Company, for the term of five years, by the last Legislature under peculiar circumstances. It was so. These companies had obtained charters originally from other states, and were composed of citizens who were among the first to

enter the wilderness and the mountains of Schuylkill county, and to develope her mineral wealth. They were among the pioneers in the business, and expended very large sums in opening mines and in the general improvement of the country. They have pursued the legitimate objects of their creation, by yearly mining and sending to market large quantities of coal. It is not urged in the answers of the respectable coal dealers of Schuylkill county to the committee, that their corporate privileges should now be resumed. Individual operators are rather opposed to the principle of granting charters, and rather deprecate the policy, than fear any injury from the operations of these two companies. It is, therefore, more important that the policy of the Legislature should be known and settled, than what that particular policy may be. Individuals feel unsafe in investing their capital and in embarking in a business liable to fluctuation, and to the caprice of legislation.

Under these circumstances, application was made to the Legislature to escheat to the Commonwealth, under the statutes of *mortmain*, the lands of these companies, and to compel them to discontinue operations under their foreign charters. These measures were deemed too harsh; and considering the many benefits conferred upon the public by these companies, or rather by the individuals composing them, the Legislature gave them a charter for five years, reserving the right at any time to resume the grant. The committee, after a full consideration of the case, have no reason to question the propriety of these grants, nor to urge their resumption. They are now actively and usefully engaged in the mining and transportation of coal. They possess no undue controul over rail-roads or canals, nor powers of exclusion. They are carefully restricted in their charters as to quantity of land, and the extent of their duration; and so long as they pursue the line of open and honorable competition, and honestly continue to rely upon the mining of coal to remunerate their stockholders, there would seem to exist little cause of complaint on the part of their individual competitors. If, however, they shall be found in the progress of their operations, to engage in any thing foreign to the purposes of their creation, or in any measures calculated to retard the public prosperity or to cripple individual enterprize, this would present a proper case for the interposition of the Legislature. So long as no charge of impropriety, or of injurious tendency to the public is preferred against them, it would in the opinion of the committee be unwise in the Legislature, and not desired by the intelligent citizens of Schuylkill county, at present, to resume their privileges and destroy their operations. They have yet four years to prosecute their business, in their corporate capacities, and to close their concerns. Their charters will then expire, and the individuals composing the companies be placed in possession of their lands and be allowed either to discontinue or pursue the business upon equal grounds with other operators.

The grand evil, in relation to the incorporation of companies, and against which the committee would most earnestly protest, is in giving them, in addition to their mining privileges, the controul of a ca-

nal or rail-road, with power to lock up at pleasure the resources of a whole valley or community. To this source may be traced many of the evils complained of by the public; and it is hoped, as at this day such inducements cannot be considered necessary to the construction of public improvements, they may in future be guarded against by the Legisltaure. For mining purposes alone, such powers would at present seem to be entirely unnecessary, unless in the cases already adverted to. Should they ever hereafter, under change of circumstances, be deemed necessary, the Legislature will then be competent to determine the question. Until that exigency arrive, it would, in the opinion of the committee, be the surest and safest policy to allow the business to remain open to the free and untrammelled exercise of individual enterprize, and individual controul.

The committee, therefore, having extended this report to a greater length, they fear, than may be acceptable to the Senate, will not stop to comment upon the many other points which the case would seem to present, nor to analyze, more in detail, the facts communicated by the Coal Dealers of the different districts. They conclude by expressing the opinion, that, with the exception of the measures already recommended, there is at present no "further Legislative provision necessary to protect, facilitate and encourage the coal trade."

Statements shewing the respective quantities of Lehigh, Schuylkill and Lackawanna, (Anthracite) coal mined and brought to market in each year, from the commencement of that business in the year 1820, to the year 1833, inclusive, with an estimate of the whole quantity consumed, and the surplus remaining on hand in the different coal markets (at tide water,) on the *1st April* in each year; as also the quantity of foreign (bituminous) coal, imported into and exported from the United States, in each year, ending on the *30th September*, from 1821 to 1833, inclusive, shewing the balance left for consumption in the United States, reduced into tons of 30 bushels each.

	Pennsylvania (Anthracite) Coal.										Foreign (Bituminous) Coal.			
Year	Receips of Lehigh	Receipts of Schuylkill	Receipts of Lackawanna	On hand at tide water 1st April	Tot'l on h'd 1st April & br't to mk't during y'r	Consum. of all kinds in y'r ending 1st April	An'l inc. of consump'n. Per cent	Retail prices in Phil. per ton delivr'd Lehigh	Schuylk'l		Bushels imported	Bushels exported	Bushels remaining for consumption	Equ'l to tons of 30 bush. each.
1820	tns 365	tons	tons	tons	tons. 365	tons		840						
1821	1,073				1,073	365		840			627,737	8,318	619,419	20,647
1822	2,240				2,240	1,073	190	840			970,828	4,167	966,661	32,222
1823	5,823				5,823	2,440	125	840			854,983	2,846	852,137	28,405
1824	9,541				9,541	5,823	140	733			764,815	2,414	762,401	25,413
1825	28,398	5,306			33,699	9,541	64	733			722,255	4,140	718,075	23,936
1826	31,280	16,835			48,115	33,699	250	733			970,021	1,080	968,941	32,298
1827	32,074	29,493		5,000	64,798	43,115	30	700	650		1,127,388	180	1,127,208	37,574
1828	30,232	47,181		8,000	85,292	56,798	31	650	7		906,200	1,743	904,477	30,149
1829	25,110	78,293	7,000	12,000	122,403	73,292	29	650	650	750	1,272,970	4,758	1,268,212	42,274
1830	41,750	89,984	42,000	18,000	192,734	104,403	42	650	650		1,640,295	12,480	1,627,815	54,260
1831	40,966	81,854	54,000	50,000	226,820	142,734	37	6	5	10	1,022,245	4,329	1,017,916	33,930
1832	75,000	209,271	84,500	none	363,871	226,820	64	6 650	550	750	2,358,037	——	2,358,037	78,601
1833	123,000	250,588	111,777	60,000	545,588	303,871	30	6 550	550				2,524,320	84,144
1834				120,000		425,588	40	475 525	525					

Statement of the quantity of Anthracite Coal shipped down the Schuylkill, in each year, from the opening of the navigation, in the year 1825, to 1833, inclusive—Showing

Years.	The number of shippers, in each year, of quantities.							To intermediate places between the mine and Philadelphia.	To Philadelphia	Total quantity shipped.	Whole number of shippers in each year.
	Under 50 tons.	50 to 300 tons.	300 to 1000 tons.	1000 to 4000 tons.	4000 to 10,000 tons.	10,000 to 20,000 tons.	Above 20,000 tons.				
1825	13	14		1					5,306	5,306	28
1826	24	24	8	3	1			3,154	13,681	16,835	60
1827	37	21	8	5	2			3,372	26,121	29,493	73
182	23	23	5	8	1	1		3,322	43,859	47,181	61
1829	50	39	6	10	5		1	5,321	72,972	78,293	111
1830	117	96	16	14	4	1		6,150	84,231	90,381	238
1831	117	93	20	11	6			Qty. not ment.	79,348	79,348	247
1832	80	109	16	27	11	1	2	13,429	195,063	208,492	245
1833	96	121	28	20	8	4	3	19,426	235,469	254,895	280
Total,	557	540	107	99	38	7	6	54,174	756,050	810,224	

STATEMENT

Of the quantities of Coal, and by whom mined and transported, on the Rail-Roads in Schuylkill county, in the year 1838; and the quantity shipped by each miner down the canal, as ascertained by the published statements of the Rail-Road companies, and the permits granted by the Schuylkill Navigation Company

No.	Names of Shippers on	Mt. Carbon road.	M. Hill and Schuylkill Haven road.	Mill creek road.	Schuylkill Valley road.	Total.	Shipped down the canal.
1	John M. Beckel & Co.	339				339	125
2	John R. Bowes,	931				931	
3	David Brown,	261				261	
4	Samuel Brook,		3119			3119	2264
5	Bennet & Walton,		2156			2156	515
6	Bennegoff & Fitch,		1222			1222	
7	Beck & Woodside,			403		403	253
8	Aquilla Bolton,				9410	9410	6293
9	Charles Brooke,				941	941	618
10	Wm. Bosbyshell,				408	408	415
11	Blight, Wallace, & Co.				1935	1935	6131
12	John Curry & Co.				744	744	85
13	Daddow & Co.	657				657	
14	Delaware Coal Co.	17264	6860			24124	23534
15	Jacob Dewees,		578			578	
16	Lewis C. Dougherty,		5901			5901	5533
17	John C. Ernst,	1049				1049	837
18	John C. Flannagan,			839		839	
19	John Gemplin,	17				17	
20	J. & T. Graves,			142		142	2594
21	Wm. Hall,	4				4	
22	Hughes & Potts,	20				20	213
23	Heilner & Bast,		5541			5541	6212
24	A. Hock,		1240			1240	
25	Hughes & Dewees,		823			823	
26	F. Haas & Co.			2166		2166	1286
27	Hodgson, Pinkerton & Co			5675		5675	7482
28	D. R. Jacobs,		2183			2183	592
29	Peter Kern,	28	576			604	551
30	John Kirkley,	105				105	
31	Kline & Strauch,			426		426	
32	Charles Lawton,	4279				4279	3189
33	R. Long,		241			241	
34	S. Lewis,		961			961	
35	Henry A. Lyon,			201		201	
36	Lawton, Weaver & Co.			261		261	
37	Alfred Lawton,				318	318	
38	Mann & Williams,	1209				1209	
39	Wm. H. Mann & Co.	6749				6749	6428
40	James Millens,	21				21	
41	Thos. Martin,	2491				2491	
42	L. Montgomery,	24				24	
43	John Miller,		363			363	294
44	W. S. & C. M. Mills,		2236			2236	
45	George P. Neligh,	401				401	
46	Neligh, Lewis & Co.			9291		9291	[illegible]
47	Neligh & Alden,	617				617	433
48	N. A. Coal Co.	23339				23339	22048
49	F. B. Nichols & Co.			3822		3822	251
50	Palmer & Garrigues,	2046				2046	557
51	Samuel J. Potts,	9044				9044	
52	Phoœnix Co.		9049			9049	8715
53	Pott & Coles,		658			658	737
54	Burd Patterson,		672		921	1593	
55	George Patterson,		1560			1560	945
56	Benj'n Pott,		50			50	
57	Pott & Patterson,			1149		1149	2028
58	V. B. Palmer,				1324	1324	
59	George H. Potts,				1353	1353	294
60	Charles Potts,				1265	1265	1762
61	Henry Porter,				126	126	221
62	Ridgway, Fisher & Co.	948				948	
63	Thos. Ryan,	5				5	
64	Samuel Rickard,		1820			1820	
65	R. Rickard,		633			633	721
66	Thos. Robinson,				2553	2553	1818
67	Thos. Sparks,	38				38	
68	George Spencer,	95				95	
69	James Sillyman,	14				14	
70	Peter Stinemetz,	51				51	
71	Stinemetz & Neligh,	35				35	
72	Stephens & Co.		1637			1637	
73	A. Streeper,		1184			1184	785
74	Stall & Offerman,		1331	251		1582	1742
75	Dr. Stineberger,		1120			1120	2512
76	John Schmoldt.				1068	1068	
77	B. H. Springer,				865	865	
78	J. Shuttleworth & Co.				248	248	
79	Peter Stineberger,		500			500	
80	Emor Sayles,		2076			2076	1450
81	George Taylor,	138				138	186
82	Lewis Waters,	216				216	
83	Francis Wade,	664				664	
84	William Waters,		1805			1805	
85	J. Wilde,		492			492	
86	Lebbeus Whitney,		223			223	
87	M. Weaver,		512			512	1547
88	S. P. Wetherill,			5671		5671	5560
89	M. H. Wythoff,			2220		2220	1887
90	Wm. Wagner,		16337			16337	16072
91	Robert Young,			4557		4557	3782
	Sundry persons,	38	1503			1541	
		73,137	77,162	37,074	23,479	210,852	162,083
	Little Schuylkill Coal Co. on the Little Schuylkill road,					37,506	37,506

Total quantity shipped down the canal by 47 miners & shippers, 199,589
Do do do 225 purchasers, 50,999

Total quantity sent down the canal—tons, 250,588

APPENDIX.

IN SENATE,

March 12, 1833

A motion was made by Mr. PACKER and Mr. KREBS, and read as follows:

Whereas numerous applications have recently been made to the Legislature, for the incorporation of companies for the mining and transportation of coal. And whereas this valuable mineral may now be regarded as the staple product of the state; and while every necessary legislative encouragement should be given to foster and protect an interest so closely identified with the prosperity and the wealth of the state, individual interests should be guarded with peculiar care, and their enterprize and industry encouraged: Therefore, to the end that this important interest, its history and operations, yet in their infancy, be more fully understood, be it

Resolved, That a committee be appointed to investigate the present state of the coal trade within this Commonwealth, and the history of the mining operations generally, with a view to ascertain the effect of incorporated companies, (with mining and trading privileges,) on the progress of the business, and the improvement and prosperity of the country; and to inquire what further legislative provisions are necessary to protect, facilitate and encourage this branch of industry, and make report to the Senate at the next Session of the Legislature.

Which was adopted, and March 19, 1833, Ordered, that Messrs. PACKER, KREBS, HOPKINS, SMYSER and ROGERS, be said committee.

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NO. I.

Queries submitted to the Coal dealers of Schuylkill county by the committee appointed by the Senate of Pennsylvania, to investigate the state of the Coal Trade, &c. &c.

1. How long have you been engaged in the Coal trade, and do you operate under a charter, or in your private capacity? State generally the extent of your operations, with such particulars as you may deem pertinent to the inquiry before the committee.

2. State as nearly as you can recollect the number of principal and lateral rail roads in the Schuylkill Coal region—the extent of miles—what portion of them was made by incorporated companies, having mining privileges—what portion by individuals—what portion by companies not having mining privileges—when made and their respective cost?

3. Have the mines now opened, and the rail roads and other improvements now completed in the region been worked and occupied

during the present season to the extent of their capacity? If not, what amount of coal in your opinion, are they capable of sending to market yearly.

4. From your knowledge and experience in the coal business, do you consider the incorporation of companies necessary to its successful prosecution?

5. How are individual coal dealers affected by the acts and operations of incorporated coal companies; and what effect, if any, has been produced by the extension of time and charters granted to certain companies by the last Legislature?

6. What do you consider to be the effect of incorporated companies upon the general prosperity of the country; and wherein does a population or community, growing up under such companies, differ from that created by individual operators in the Coal business?

7. In the present state of improvements in the Coal region, what amount of capital is requisite to a proper and successful prosecution of the Coal business?

8. Can the mining and transportation of coal be carried on as economically by individuals as by incorporated companies?

9. Do you consider the means of individual Coal dealers in the region competent to supply the market?

10. Is not the consumption of Coal increased by having a constant supply in market; and what has been the average rate of increase from the opening of the Coal trade to the present time?

11. What amount of capital do you suppose has been invested by individuals in the Coal business and improvements connected therewith?

12. What is the number of boats now used in the Coal trade on the Schuylkill Navigation, by individuals and companies respectively; and what quantity of Coal are they capable of sending to market yearly?

13. What number of Colliery establishments is now worked by individuals in the Coal region, and how many by incorporated companies?

No. 2.

Answers by the Lehigh Coal and Navigation Company, to the questions proposed by the Committee of the Senate of Pennsylvania.

PHILADELPHIA, November 20, 1833.

Answer to Questions 1, 2, 3.

The Lehigh coal and navigation company originated under "an act to improve the navigation of the river Lehigh," granted to Josiah White, Geo. F. A. Hauto, and Erskine Hazard on 20th March, 1818. They were incorporated 13th February, 1822, and the rights and privileges conferred by the above mentioned act were confirmed to them by the charter. They commenced the improvement of the Le-

high in August 1818, and by the close of 1819 completed a descending navigation in the first grand section of that river by a system of artificial freshets, and also a regularly graded turnpike road, nine miles long from the coal mines to the landing in Mauch Chunk. These improvements were the first of their kind in the United States. The navigation by artificial freshets was continued until superseded by the canal which was completed in July 1829. The descending navigation above mentioned was inspected and the governor's license to collect tolls upon it, obtained January 17, 1823.

The canal is forty-five feet at bottom, sixty feet at the surface, and five feet depth of water. The locks upon it are one hundred feet long by twenty-two feet wide, calculated for boats of one hundred and fifty tons, and admit the passage of *two* Delaware canal boats at a time. The whole is constructed in the most substantial manner and protected by heavy slope walls, wherever it is exposed to the action of the river. This navigation is forty-six and three-fourth miles long and overcomes a fall in that distance of three hundred and sixty feet, having forty-seven lift locks, two of which also act as guard locks, six guard locks and eight dams across the Lehigh. There is sufficient water at the lowest time to fill the locks every five minutes. It was inspected and the Governor's license to take take toll on it obtained, July 8, 1829.

The company have two rail-roads. The first was constructed from Mauch Chunk to the great coal mines, seven miles of it on the graded turnpike above mentioned. The remaining two miles were graded, (in the winter of 1829) all the materials procured and the whole superstructure of the road finished in five months, and in the balance of that year, twenty-five thousand, one hundred and ten tons of coal were brought down it, to Mauch Chunk. This was the first rail-road exceeding three miles in length, in the United States. Its length, together with that of its branches, now exceeds sixteen and a half miles, single track. The cost of this road was sixty thousand dollars, in addition to the cost of the old turnpike. It has one self-acting inclined plane at the river, about seven hundred and fifty feet long and two hundred and fifteen feet descent.

The other rail-road extends from Mauch Chunk to the mines lately discovered on Room river, and was completed the present season. Its length, including its branches, about eight and three-fifths miles of single track. It has three self-acting planes, the intervening road being graded from ten to twelve inches in the hundred feet. The cost was one hundred and twenty-three thousand dollars.

At the old mines, the coal appears to be on an average, sixty feet thick, and to follow very nearly the surface of the ground where found. It is overlaid in some parts with stone, in others with decomposed coal and a stratum of yellow soil. The covering where it has been worked varies from ten to twenty feet. Small veins of slate appear in some parts of the coal but run out in others. This mine is worked by uncovering and quarrying. The excavation now amounts to ten acres. The coal has been traced from this opening to the Little

Schuylkill, a distance of four miles in one direction, and to the Lehigh, eight miles, in the opposite direction.

At Room run, fifteen veins of coal have been opened which appear to be of the following dimensions, viz: One of seven feet thick, one of twenty-eight feet, one of five feet, two of six feet, one of nineteen feet, one of thirty-nine feet, two of eight feet, three of fifteen feet, one of fifty feet, one of twelve feet, and one of nine feet, making the total thickness of the veins two hundred and forty-two feet. These veins are all cut across by the Room rum stream, along which the rail-road is carried, with branches into each vein on both sides of the main road. Three of the veins will be worked by uncovering, the others by mining. Their dip varies from nearly perpendicular to twenty degrees.

About one hundred thousand tons of coal will be taken this year from the old mines. The addition of a second inclined plane and chute at the landing, with an increased quantity of double track for passing places, would make the present rail-road adequate to the passage of two hundred thousand tons per annum, which those mines would readily supply from the *present* openings. An equal quantity may be obtained, in a short time for preparation, from the Room run openings. Should the market require more from the company than four hundred thousand tons per annum, the addition of a second track to the railway to the old mines, and a tunnel of five hundred to eight hundred feet in length to give additional openings to the veins, would give the means of supplying it.

The following statement shows the quantity of anthracite coal sent to market from the Lehigh, and also the quantity shipped coastwise:

years.	tons.	tons shipped.
1820	365	00
1821	1,073	15
1822	2,240	181
1823	5,823	1,123
1824	9,541	3,958
1825	28,393	14,378
1826	31,280	15,817
1827	32,074	18,323
1828	30,232	22,876
1829	25,110	10,954
1830	41,750	20,391
1831	40,966	14,094
1832	75,000	33,732
1833	123,000	44,168
Total	446,847	200,040

Answer to question 4 and 5.

In answer to these questions, we would state, that, on the Lehigh, the coal business requires a large capital to carry it on advantageously and extensively; and it was found impracticable to concentrate a sufficient amount, without the protection of an act of incorporation.—The mines at Summit hill, being distant from the navigation, required an extensive rail road to connect them: and the different veins of coal being here collected into one mass, it would be impracticable to separate the work into a number of small concerns, as the hands of the respective operators would, in that case, be in contact with each other, and consequently in constant warfare. The rail road, also, having but a single track, and necessarily requiring the operations to be carried on with regularity proportioned to their extent, would be a source of constant collision. There are consequently no individual operators on the Lehigh.

Answer to question 6.

The general improvement of the surrounding country in value and population—the formation of a home market for all the produce of the country, for a circuit of many miles—with the annual distribution among the people for labor and provisions, of an amount of money equal to the cost of raising and transporting the coal, none of which is to be paid back to the company, sufficiently explains the effect upon the general prosperity of the country, arising from the incorporation of the Lehigh Coal and Navigation company. It is not so easy to point out the difference between a community growing up under such a corporation, and that created by individual operators; though in some few particulars there certainly is a difference. The contractors in the several departments of a company's business, would represent individual operators, where they were not at the same time owners of the land, with the exception that the *contractor* is *sure* of his market, while the *operator* is *not*. The labourers employed by both, would be under similar circumstances, as would also be the several tradesmen, and persons of different occupations, necessary to furnish supplies and otherwise administer to the comforts or wants of the labouring part of each community. The principal difference, perhaps, consists in the circumstance that every individual of the community created by a company, can be interested, to the amount of his wishes and means, in the whole business of the company, by purchasing shares of the stock, while the *operators alone*, under the individual system, have any interest in the works. In this way many of the workmen and others, at the mines and at Mauch Chunk, are interested in the stock and loans of the Lehigh company.

Answer to question 7.

The capital necessary to carry on the coal business, profitably, we should estimate to be at least equal to the first cost of a year's work; the coal, during summer, being generally sold on a credit extending to the end of the year, and that for home consumption not being extensively called for before winter.

Answer to question 8.

The business of mining and transporting coal, like most operations requiring labor, is capable of subdivision, and by it, gains in economy —but, to gain an advantage from the subdivision of labor, it is necessary to extend the business so far, that each individual shall be fully occupied, without changing his employment. With this extent of business, an individual would probably be able to economize more than a company, by bringing all the energies of his mind upon it, and giving it such undivided attention as is rarely to be met with from salary officers; but the amount of capital required in such a concern, is generally beyond the fortunes of individuals who would be disposed to give it the necessary attention. It does not follow, however, that money and the requisite talents for business, are always to be met with in the same person, while companies may always select their officers for their peculiar qualifications.

Answer to question 9.

This question is answered by reference to the table of coal sent down from the several districts.

Answer to question 10.

There can be no doubt but that the consumption of coal is greatly and permanently increased by having stocks on hand in the spring. By referring to the table of coal sent down, for the stocks on hand at the commencement of each season, it will be seen that the market has been fully supplied, and to that in a great measure may be attributed the extraordinary increase. In 1825 and 1831, there was perhaps barely enough for the demand. The large stock of coal on hand in the spring of 1831, caused many individual operators on the Schuylkill to slacken their exertions, so that the supply from that quarter was considerably less than the preceding year. The Lackawanna works were not fully in operation, and the Lehigh company having no use of the Pennsylvania canal along the Delaware, were obliged to content themselves with what coal they could get down in the rough arks, by the channels of the river, which were broken up every trip. Of these arks they annually built as many as would make a continuous line of eleven to twelve miles in length, and the whole length of arks built by them, if added together would exceed seventy five miles.

Answer to question 11.

We have no idea what sum has been invested by individuals in the coal business.

Answer to question 12.

The Lehigh company have in their employ on the Lehigh and Delaware canals two hundred and forty-five boats, most of which are calculated to carry seventy to seventy-five tons each. Besides these, there are numerous boats, also employed in the coal trade by individuals on the Lehigh, Delaware, and Morris canals. There are in the company's service, two hundred and ninety-two horses, two hundred

and seven mules and twenty-two oxen; also five hundred and sixty-eight rail-road wagons. Two steam tow-boats of twenty-six and forty-five horse power are owned by the company, and are kept plying between the mouth of the Delaware canal and Philadelphia.

Answer to question 13.

The answer to this question is included in the preceding.

Answer to question 14.

The number of persons employed in all the departments of the company's business, is one thousand four hundred and sixty-four. With respect to the amount of population depending upon the company's operations, immediately, for subsistence, it is impossible to come at exactness. It would probably not come up to the number, to allow each hand employed, to be equal to a family of six persons. There are of course, many single men among them, but the different tradesmen, agriculturists, merchants &c. and their families, who are supported by the establishment, would more than compensate for this circumstance. This computation would give eight thousand, seven hundred and seventy-eight souls.

Answer to question 15.

Were the coal business confined to individuals exclusively, it would necessarily fall into the hands of large capitalists, as in England.—The hands employed in the works, are mostly dependent on their daily wages for support, and must receive their wages when earned, and be regularly employed, or be starved out of the business. Thus the whole expenses on the coal must be paid in cash, and require large capitals, as mentioned in the answer to question seven.

Answer to question 16.

The number of vessels loaded with coal by the Lehigh company, at their landings in Philadelphia, and at the State pier at Bristol, (the mouth of the Delaware canal,) from the 20th March to 19th November, 1833, was—two ships, forty-two brigs, two hundred and three schooners, one hundred and thirty-six sloops.—Total, 383.

The capital stock of the Lehigh coal and navigation company, consisting of twenty thousand shares of fifty dollars each, say one million of dollars, is held as follows, viz:

There are 109	holders of from	1 share	to	20 shares each.
27	"	21	"	40
26	"	41	"	60
31	"	61	"	100
46	"	more than 100 shares each.		
Total, 239 stockholders.				

There are included in the above list of stock, seventy-three single women, widows and children, being *nearly one-third* of the whole number.

The permanent loan of the company, amounting to upwards of one million five hundred thousand dollars, bearing interest payable quarterly, is held as follows, viz:

31	holders	have	sums	exceeding		$10,000 each.
27	"	"	over 5,000	and up	to	10,000
12	"	"	" 4,000	"		5,000
27	"	"	" 3,000	"		4,000
37	"	"	" 2,000	"		3,000
50	"	"	" 1,000	"		2,000
53	"	"	" 500	"		1,000
62	"	"	sums of from $100 to $500 each.			
299	Total—loanholders.					

In the above list of loanholders, there are one hundred and twelve single women, widows and children, and eight charitable societies and churches, being *more than one-third* of the whole number of holders.

Total number of stockholders and loanholders, five hundred and thirty-eight; of which, one hundred and ninety-three, or more than one-third, are single women, widows and children, charitable societies and churches.

With a few unimportant exceptions, the whole of the capital stock and loan of the company is the property of citizens of Pennsylvania.

No. 3.

Answers of Samuel Lewis, to the queries submitted to the coal dealers of Schuylkill county, by the committee of the Senate of Pennsylvania:

1. I have been engaged about three years and a half in the coal business, and operate in my individual capacity. My operations have extended from two to four thousand five hundred tons per annum; principally sold on the landings at Schuylkill Haven. Coal is sold partly here, sometimes deliverable in Philadelphia—and considerable quantities are sent down unsold, consigned to agents or partners of operators here.

2. There are four rail-roads in this region, made by companies not having mining privileges. Their aggregate length is about thirty-eight miles, and cost three hundred and fifty-five thousand dollars.—Connected with these, there is about twenty-nine and three-fourths miles of lateral rail-road, made by individuals, at a cost of about sixty-four thousand six hundred dollars. About one mile of lateral road has been made by companies having mining privileges. All these, I believe, have been made since the year 1827.

3. Ten times the coal sent to market from the region this season, would not have fully occupied the rail-roads now constructed in it.

The mines now opened in the region, could produce at least double the quantity now sent. But few of them have been worked to their full capacity, and many of them were entirely idle. I should say it was rating the capacity of the region very low, to state it as capable of producing, annually, five times the present quantity.

4. From my knowledge of the coal business, I do not consider the incorporation of companies necessary to carry it on, any more than for raising grain, making flour or iron, or for mercantile business.—The mining part of the business is constantly liable to derangement and interruptions, which no human power could either foresee or prevent, as well as from the faithlessness or carelessness of workmen. What are called faults in veins of coal—that is, soft places that do not yield a merchantable article—are of frequent occurrence; and the continuity of veins is frequently broken by the protrusion of rocks. It requires frequently considerable skill and well-directed effort, to strike the vein again. Mines are also liable to be injured, or even ruined, by ignorant, careless or unprincipled workmen, and in such a way that the evil is difficult to discover, unless by the daily inspection of those well-skilled in the practical part of the business, until too late to be remedied. This branch of the business, requires the closest personal attention of those immediately interested in its successful issue, to carry it on to advantage. Can it then be supposed, for a moment, that a distant board of managers, entirely ignorant of the business, can manage it as well as he who is on the spot, with the best opportunities of practical information, and whose fortune is probably at stake on the successful issue of the undertaking? And as for the mercantile part of the business, the experience of all nations where companies have been tried, has pronounced them totally unfit to carry it on with profit to themselves, without an exclusive monopoly; and never with advantage to the public.

5. To answer this question fully, and consider the subject in all its bearings, would make this communication of great length. I will, therefore, only remark, that it has frequently been observed that a large capital, embarked in any business, generally induces its possessor to grasp at and endeavour to monopolize the whole or greater part of such business, particularly when the capitals of others engaged in the same business are small. To this may be added, in the case of joint stock companies, the attention that must be paid to keeping up the price of their stock. There is no way more likely to affect both these objects, than to make a great display of the powers and resources of the company, and of their ability to supply any amount of coal the market may demand. Hence, there is an annual publication of reports, circulars, &c., stating the amount of coal the companies design to send to market that season: the amount is generally so large, that if actually sent, would be much greater than the demand the previous season. And however much the quantity actually sent, may fall short of that announced at the commencement of the season, it generally is occasioned more by a deficiency of ability to fulfil their promises, than by any desire to shape their business to the state of

the market. In a new business, like the coal business, where the demand, and the capacity to supply it, are more matters of conjecture than actual knowledge, such statements, coming from companies known or professing to wield immense capitals, and whose known interest it is to drive all competitors out of the market, will naturally deter prudent men from embarking largely in the business, until the abilities of the companies to fulfil their promises, shall have been more nearly ascertained. The consequence is, that they put off their purchases until late in the season—then there is a rush for coal—the price of freight, labour, and every thing connected with getting it to market, runs up ruinously high—consumers are obliged to pay high for their coal, and no one is benefitted; as the advance in price scarcely compensates any concerned for the time they have been previously half employed. By these means, the market is kept in an uncertain, fluctuating state, sometimes ruinously depressed, at others highly excited—injurious alike to the miner, the dealer, and the consumer, as well as detrimental to the public prosperity, by retarding the introduction of this superior fuel into general use. All that individual operators want in this, as in other kinds of business, is the free use of the market, untrammelled by the incubus of joint stock companies. They are perfectly satisfied that the business will soon regulate itself; that if it is found more profitable than other kinds, capital will soon flow into it and reduce the profits to an equality with others, in spite of any efforts they can make to the contrary. And the public may rest assured, if this were the case, that the article would be furnished as low as capital and ingenuity could do it. Not so with companies.—It is evidently their interest that there should be as few competitors in the market as possible; and as they have never been known to be over scrupulous about the means employed to attain their ends, every weapon that can be wielded by a powerful monied aristocracy, will be used to attain their object. Let them once have possession of the market, and the districts from which it is supplied, and the public, will most assuredly have to pay them for all their blunders and failures, past, present, and to come; as well as a good round sum in the shape of profits on their investments.

6. The influence of incorporated companies with mining and trading privileges, is more inimical than beneficial to the general prosperity of a country. Their affairs are generally managed by a distant board of directors, many of whom are ignorant of the wants and capabilities of the country they operate in. In this region they have contributed next to nothing to our improvements. No institutions, literary, moral or religious, have been originated or mainly supported by any of the companies, yet every dollar that can be drawn from us is taken with avidity. If companies are to have the controul of large masses of ignorant men, without any provision for their education, they can readily be used to controul the freedom of elections, and to consolidate their own power.

7. The coal business, like many other kinds of business, admits of a small or large capital being used. Small concerns have been car-

ried on with a capital of less than two thousand dollars, exclusive of the price of the land. And from twenty thousand dollars to thirty thousand dollars have been invested in some establishments. When coal is sold at the mines or on the landings in the coal region, as is frequently done, three or four thousand dollars will be sufficient to do a large amount of business. If the operator here sends his coal to a distant market, a larger capital will of course be necessary.

8. I know of no reason why individuals cannot mine and transport coal as cheap as incorporated companies, unless it can be shown that all kinds of business can be done more economically by companies than by individuals.

9. I consider the means of individuals as fully competent to supply all and more than all the coal that will be required from this region. Other districts must be expected to furnish a part of the general supply. And as capital is abundant in the country, it will no doubt flow into this business as fast as required, particularly if capitalists are once satisfied that the legislature will not interfere with their investments.

10. There can be no doubt but that the consumption of coal is increased by having a constant supply in market; but surely individuals are as competent to do this as to keep a supply of flour, sugar, cotton, or any other kind of merchandize. Less capital than would be required to fit out a single tea ship, is amply sufficient for the largest coal dealer in the United States. And individuals being actually engaged in the business, are more likely to be competent judges of the quantity the market will require, than the managers of a company, who are either engaged in other kinds of business, or in no business at all. The average increase of coal sent to market since 1820, is 37,577 tons per annum, and for the last nine years, is 53,147 tons per annum. And the average rate per cent. for the former period is 86 per cent. per annum; and for the latter, 65.8 per cent. per annum. For particulars, see table annexed.

11. It has been ascertained from minute enquiry, that individuals have expended in this region for lateral roads, wagons, boats, opening collieries, and for fixtures, tools, &c., at least $568,500, and that they must have invested as working capital, $86,000 more. It is estimated that the towns, wharves, &c. built by individuals in the region, have cost more than $[illegible],000,000, and that they hold 60,000 acres of land, bought and held as coal land, which at $50 per acre, would be three millions more. The whole investment of individuals may therefore be stated in round numbers, at five millions, six hundred and fifty thousand dollars.

12. It has been ascertained from an examination of the Navigation company's registers, and from information derived from their officers and others, that there are 580 ~~thousand~~ boats on the Schuylkill navigation, used principally for the conveyance of coal. Of these, 512 belong to individuals, 37 to the North American coal company, 26 to the Little Schuylkill company, and five to the Delaware coal com-

pany. These boats are sufficient, if kept constantly employed, to carry from 450,000 to 500,000 tons of coal annually to market.

13. There are about 86 colliery establishments worked by individuals in the course of the past year. There are several others lying idle—the exact number not ascertained. The North American and Delaware coal companies have five establishments worked at present.

(Signed,) SAMUEL LEWIS.

Pottsville, December 16th, 1833.

I have been engaged in the coal trade eight years, and operated in my individual capacity, and fully concur in the foregoing statement by S. Lewis.

BURD PATTERSON.

I have been engaged in the coal trade four years, and operated in my individual capacity, and sent to market from twenty-five hundred tons to three thousand each year, and fully concur in the foregoing statement by S. Lewis.

FREDERICK HASS.

I have been engaged in the coal business six years, and have mined and sent to market from three to four thousand five hundred tons yearly, and am now prepared to mine ten thousand tons yearly, for several years, from my present openings, and do fully concur in the foregoing statement made by Mr. Lewis.

SAMUEL BROOKE.

NO. 4.

To the 1st interrogatory I reply: I have been in the Coal trade three years and do not operate under a charter but in a private capacity. On the tract which is one hundred and seventy five acres we have twenty three different veins, ten of which we have opened, and all from three to fourteen feet thick. Our present operation is confined to the tunnel which you visited, in which we cut four veins out of which one opening or tunnel I have sent eighteen thousand six hundred tons of coal, and the coming year feel a confidence in saying if the market would warrant it, our ability would be equal to thirty thousand tons of coal.

2d. To this query I cannot reply. My confinement at the works deprives me of the possession of that extent of information which appears requisite.

3d. The mines and conveniences for transportation would have afforded in my opinion 50 per cent more coal, had the state of the trade induced the operations, and think four hundred thousand tons of coal could have been sent to market this season.

4th. I do not think incorporated companies in any wise necessary to the successful prosecution of the coal business.

5th. Individual coal dealers are affected by incorporate companies by their facility of raising money, among the directors, thereby giving them the means of holding on for the rise of market or of sacrificing their coal or part of it to lower the market, and force individual enterprize from the competition.

6th. Incorporated coal companies or indeed any corporate companies, have a tendency to depress individual enterprize, wherever it comes in contact with the extended radiations of their power, the financial arrangements being so readily accomplished by companies as at once to bear down the facilities of individuals, in the scale of comparison, and from the credit of companies, they can negotiate their paper at much longer dates than the most respected individual.

7th. To prosecute our operation of twenty thousand tons of coal, to mine it, transport it nine miles, ship it and trans-ship it to the Atlantic cities, and await the market, will require a capital of fifty thousand dollars.

8th. The mining operations of coal can be carried on much cheaper by individuals than by incorporated bodies, as the whole operation is carried on without an agent, with a fat salary at every turn, and at every point a lavish waste of materials, all of which by individuals is narrowly watched and protected.

9th. I consider individual means of supplying the market with coal abundantly sufficient, provided they were not oppressed by Legislative grants to a "chosen few," the power of whom dampens and oppresses individual enterprize.

10th. The consumption of coal, is increased when a constant supply is at market but for that supply the market has not been, neither need it be indebted to "corporate companies."

11th. I am unable to answer; *for ourselves* we have expended forty four thousand dollars for cost and improvements.

12th. I cannot reply for want of information.

13th. I am uninformed.

Very respectfully, your obedient servant,

WM. WAGNER.

Diamond Colliers, December 16, 1833.

N. B.—Over and above the eighteen thousand six hundred tons mined and shipped, I purchased at Schuylkill Haven and shipped sixteen hundred and fifty tons—twenty thousand two hundred and fifty tons being the amount mined and shipped.

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No. 5.

Answers of F. B. Nichols, to queries submitted to the coal dealers of Schuylkill county, by the committee appointed by the Senate of Pennsylvania, to investigate the state of the coal trade, &c. &c.

1. To the first interrogatory, the subscriber answers:—That he has been engaged more or less in the coal trade from its commence-

ment in this region, by the opening of the canal, and always in private capacity, without a charter, or in any manner connected with one; that his present year's operations amounted to near five thousand tons.

2. To the second interrogatory he says—That about 40 miles of rail-roads have been made by incorporated companies without mining privileges, and that he supposes nearly the same number of miles of lateral roads made by individuals. When made, precisely, and their respective or aggregate cost, he says he cannot say with assurance.

3. To the third interrogatory he says—That he does not suppose the mines now opened have been worked to one half their capacity. It is impossible for him to form a correct opinion as to the quantity they are capable of supplying, as that would depend entirely on the amount of capital employed.

4. To the fourth interrogatory he says—That from his own observation and experience, he believes incorporated companies detrimental to the general trade, and that they cannot operate with the same economy and advantage that individuals can.

5. To the fifth interrogatory, he says—That individual coal dealers are injured in their business, not so much by the amount of fair competition with the companies, as by their boasting and promises in their annual reports to their stockholders and the public, which deters dealers from making contracts early in the season, thereby depriving the individuals of the use of so much capital and employment in the best part of the year, and throws the press of business on the close of the year, when the public have discovered the fallacy of their promises.

6. To the sixth interrogatory, he says—That in the abstract he considers incorporations detrimental to the public good; that they commit acts in their corporate capacity, which as individuals they would not dare to do; and that they cannot operate as economically as individuals, from obvious reasons,—numerous agencies, and the general waste and extravagance of *mere* agents. To the second part of this interrogatory, he says—that the relative effects of company and individual operations are very evident in the different improvements of the places or districts where either prevails. Witness, Pottsville and its neighbourhood, and Mauch Chunk or Carbondale.

7. To the seventh interrogatory, he says—That the amount of capital for coal operations, like that of any other business, depends entirely on the views of the individuals possessing the means, and cannot be stated with precision—one thousand to fifty thousand dollars. If the coal is to be sold at the pitt's mouth, by the miner, a very small cash capital would suffice; but if it is to be carried through all its trains to the consumer, and wait for winter sales, a very large capital is necessary.

8. To the eighth interrogatory, he says—That he does not believe companies can operate as advantageously as individuals, for the reasons stated in his reply to the sixth interrogatory.

9. To the ninth interrogatory, he answers—That he does not consider the means of the present individual dealers competent to the full supply of the demand; but that were the public assured that companies would not be tolerated by the legislature, sufficient capital would soon be supplied for any demand of the article.

10. To the tenth interrogatory, he answers—*Yes*—a constant supply of any staple article necessarily increases its consumption; and that he believes the average increase of the consumption of anthracite coal to have been from 30 to 35 per cent. per annum from the commencement of the trade to the present time.

11. To the eleventh, he says—It is impossible for him to answer this interrogatory satisfactorily from any personal observation.

12. To the twelfth interrogatory, he says—There are about 450 boats employed on the Schuylkill canal, about 70 of which belong to companies, and that boats properly driven might take down seven hundred tons each per annum.

13. To the thirteenth interrogatory, he says—That he has not the means of forming an opinion of the number of individual operations in the region; but whatever may be their present number, he does not doubt proper encouragement would increase them greatly.

F. B. NICHOLS.

Pottsville, December 23d, 1833.

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NO. 6.

To the committee appointed by the Senate of Pennsylvania to investigate the state of the Coal trade, &c. &c.

GENTLEMEN:—I respectfully submit my answers to your queries.

To the 1st. I have been engaged in the coal trade in England from the year 1810 to 1829 both inclusive, (nineteen years) and in Schuylkill county between three and four years. In the year 1830, I operated in partnership with two others; we rented mines and had two establishments near Pottsville. That year we sent to market twenty five thousand tons of coals, at an expense of about thirteen thousand seven hundred dollars, including mining, removal from the mines to the canal, freight and toll, and for making a lateral rail road of about two thirds of a mile long, and partially opening two coal veins, an additional expense of five thousand six hundred dollars, making the whole expenditure nineteen thousand three hundred dollars. In March of the following year the coals were disposed of, for ten thousand dollars, and the partnership *dissolved*. Since that period I have been principally engaged in performing the services of a mining engineer, directing mining operations generally, for individuals as well as companies.

To the 2d.—I am not in possession of the necessary information.

To the 3d—The mines now opened, the rail roads, and other improvements now completed in the coal region, have not been worked

and occupied during the present season, to the extent of their capacity; a part of the last summer I was engaged making a subterraneous survey of the Delaware Coal Company's mines, in Schuylkill county, and out of seventeen openings into the different coal veins in their property all of which, are prepared and ready for mining, only five of them have been in operation during the present year; nor have these been worked to the extent of their capacity. If a sufficient capital was employed in the coal trade, in that region and a demand to warrant it, a much larger quantity might have been sent to market during the present year.

To the 4th—From my knowledge and experience in the coal business, I do consider that it requires a very large capital, but whether furnished by individuals or incorporated companies, in my opinion is not important. To the want of capital as well as skill, of the individuals who have been engaged in the coal business, may be attributed the numerous failures, which have, and still continue to take place in this important branch of trade. Individuals engaged in mining in Schuylkill county, with very few exceptions, have not a sufficient capital to carry on the business upon a very extensive scale.

To the 5th—In my opinion individual coal dealers have not been injuriously affected by the operations of incorporated coal companies. I think a beneficial effect has been produced by the extension of time, and charters granted to the Delaware Coal company, and North American Coal Company by the last Legislature. Companies have been the pioneers to extend the use of this new article of fuel, into general use, as well in families as in steam engines and manufactories generally. The companies mentioned, which had charters granted to them by the last Legislature have not worked many of their mines this year which were prepared for working, consequently less coal has been gotten from them than would probably have been, if they had been in the hands of individuals; they have also, I understand kept up the character of the quality of the Schuylkill coals as well as refused to submit to a reduction of their prices, both of which, have aided individuals in effecting sales.

To the 6th—In that section of country in which the mines are situated, the companies employ more workmen than individuals, in proportion to their relative quantities, in building houses for the miners, and building boats on the premises; they employ much more labor in making preparations for future operations. Generally the workmen employed by companies, have constant work and are provided with comfortable dwellings, consequently they become permanently fixed, and are more domestic in their habits than itinerant workmen, who generally speaking acquire such habits as are not considered compatible with a well regulated society.

To the 7th—With the exception of uncertain sales, that could be effected at the mines, it is absolutely necessary that there should be a supply in these markets in which the article is consumed, the transportation of coals being a very heavy item of account, the capital necessary for the well-managing and the successful prosecution of the

business, owing to the numerous contingencies to which mining is always liable, independent of the first outlay in establishing the work will require a cash capital of at least two dollars per ton, upon the quantity annually sent to market.

To the 8th. With competent means I am of opinion that mining could be carried on more economically by individuals, than incorporated companies.

To the 9th—The individuals now engaged in mining are incompetent to supply the market.

To the 10th—The consumption of coal is greatly increased by constantly having a supply in the market. I do not know the avarage increase of consumption from the opening of the coal trade up to the present time. From the most accurate estimates that can be made the increase this year will exceed that of the last upwards of twenty thousand tons.

The 11th, and 12th—I am not in possession of information on the subject of these queries.

The 13th—There are large and small Colliery establishments, a single opening made into a vein, considered a colliery. If openings are made into a dozen veins it is still only a colliery, if they are owned or worked, by the same proprietor, or proprietors. I believe that two thirds of the whole quantity of coals gotten in Schuylkill county during the current year, have been mined by individuals.

Gentlemen, your obedient servant,

JAMES WILDE, M. E.

Pottsville, Dec. 10, 1833.

No. 7.

Answer of Volney B. Palmer, of the Borough of Pottsville, Schuylkill county, to "Queries submitted to the Coal Dealers of Schuylkill county, by the Committee appointed by the Senate of Pennsylvania, to investigate the state of the Coal Trade, &c. &c.

To Query 1.—I have been engaged in the coal trade about two years—do not operate under a charter, but in my private capacity. In the season of 1832 (last season) I mined and sold upwards of one thousand, one hundred tons; the present season, (1833) upwards of one thousand, three hundred tons. Had there been a demand, the present season, equal to that of 1832, my mines were in such preparation, that I could have supplied five times the amount of my actual operations.

To the 2.—Thirty-eight miles of rail roads made by companies not having mining privileges.	Estimate	$355,000
29¾ miles of lateral road made by individuals,		64,650
1,054 wagons belonging to individuals,		76,920
512 Boats and horses belonging to individuals,	$500	256,000
100 Collieries belonging to individuals, including drift wagons, fixtures, tools, &c.	$2000	200,000
60,000 Acres of Coal land,	$50	3,000,000
Towns, wharves, &c., built by individuals,		2,000,000
Working capital of 100 Collieries,		100,000
Total individual investments,		$5,697,570
One mile of lateral road made by companies, having mining privileges,	Cost	$3,000
37 Boats, for the most part old ones, owned by the N. Am. company,	worth	5,000
5 Boats owned by the Del. company,	$500	2,500
		$10,500

To the 3.—The mines now opened, and the rail-roads and other improvements now completed in the region have not been worked and occupied during the present season to the extent of their capacity. They were capable of producing more than double the quantity.

To the 4.—From my knowledge and experience in the coal business, I consider the incorporation of companies not only unnecessary to its succesful prosecution, but positively and absolutely injurious.

To the 5.—The acts and operations of incorporated coal companies, affect individual coal dealers, by producing sudden and extraordinary fluctuations of the market. By raising freights and wages of miners and laborers, at certain seasons, beyond a fair and reasonable price, especially when they wish to make a display of a large quantity of coal for the purpose of raising their stock. By discharging their hands in the winter season, which causes much distress by depriving them of the daily employment upon which they depend for their daily support, and who in some instances, with their dependent families, become chargeable upon the community of individual coal dealers and others for subsistence.

The effect produced by the extension of time and charters granted to certain companies by the last Legislature, has been to discourage individual coal dealers from making additional improvements and investments, apprehending that if such new policy and course be adopted and pursued by the Legislature, that they will be compelled to leave their homes and improvements to the inevitable result attending a sys-

tem of monopoly such as has ever, and will ever prostrate the hopes and prospects of individual capitalists, who cannot compete with companies, which not only have exclusive privileges, but whose object is, not to make a profit by a fair and regular business, but to speculate in stock.

To the 6.—The effect of incorporated companies upon the general prosperity of the country may be compared to the dominion of despotism and tyranny, usurping the rights and trampling upon the liberties of the people. It is, in short, agreeably to my view of the subject, an odious aristocracy, claiming a right to exist in a free country "according to law."

As a population or community of slaves, differs from that of freemen, so does a population or community growing up under such companies differ from that created by individual operators. A comparative view of the moral and physical strength and advancement of towns existing in the coal region under the respective operations, may be easily determined by personal observation, and conclusively demonstrated by reference to the statistics of our country.

To the 7.—In the present state of improvements in the coal region, the same amount of capital which would be requisite to a proper and successful prosecution of the business of a farmer, a wood dealer, a merchant, or mechanic, is requisite and sufficient for a proper and successful prosecution of the coal business.

To the 8.—The mining and transportation of coal can be carried on more economically by individuals than by incorporated companies.

To the 9.—I do consider the means of individual coal dealers in the region fully competent to supply the market. Individual coal dealers can now as readily supply the demand for fuel by their operations, as individual wood dealers have heretofore done, prior to the introduction of coal as a fuel.

To the 10.—The consumption of coal is undoubtedly increased by having a constant supply in market.

The average rate of increase of the coal trade for the last thirteen years, is thirteen thousand, five hundred and seven-seventy tons per annum, or eighty-six per cent. per annum.

To the 11.—I suppose that the amount of capital invested by individuals in the coal business and improvements connected therewith exceeds five and a half millions of dollars.

To the 11.—The number of boats now used in the coal trade on the Schuylkill navigation by individuals is five hundred and twelve, and by companies sixty-eight, capable of sending to market yearly four hundred and seventy-five thousand tons

To the 13.—There are about one hundred colliery establishments now worked by individuals in the coal region and four or five by incorporated companies.

Very respectfully,

VOLNEY B. PALMER.

Pottsville, Pennsylvania, Nov. 1833.

No. 8.

In answer to the queries submitted to the coal dealers of Schuylkill county, by the committee appointed by the Senate of Pennsylvania, to investigate the state of the coal trade, &c. &c., the following is respectfully submitted:

Query 1. "How long have you been engaged in the coal trade?"

Twenty-eight years—twenty-one in England, and the last seven in the vicinity of Pottsville, Schuylkill county.

"Do you operate under a charter, or in your private capacity?"

Under a charter, as mine agent for the North America coal company.

"State generally the extent of your operations, with such particulars as you may deem pertinent to the inquiry before the committee."

With respect to the extent of the operations in the North America coal company's work, there are six drifts open and in working order, above water level; the average amount of coal shipped annually from these drifts is about twenty-five thousand tons, and the number of hands employed in and about the mines is one hundred, and the number of souls immediately depending on these works is three hundred and twenty-eight, inasmuch as most of the men have families. But as, in the nature of things, the coal must soon be exhausted above water level, in this coal basin,* it became necessary to try an experiment, by sinking below water level. The company accordingly directed that a shaft should be sunk, which was done, to which another has been added, about twice as deep as the first; but to operate on this principle required an engine, which has been furnished.—The cost of the engine, together with sinking shafts, &c., is about ten thousand dollars. The success of the experiment, so far, has fully gratified all reasonable expectation. But in order to form a correct judgment of the expense and uncertainty of mining operations, and consequently of the propriety of granting certain privileges to those who are occupied in them, it ought to be remarked, that there is great irregularity in the coal veins, and that faults are of frequent occurrence in all those which have hitherto been opened; these faults have to be cut through at considerable expense, and at an absolute loss, making a considerable draw-back on the profits arising from the business.

Query 2. Not having sufficient data at hand to furnish a correct answer to this query, I omit it. I presume it will be answered by others, who have more time to procure the necessary data.

Query 3. "Have the mines now opened, and the rail-roads and other improvements completed in the region, been worked and occupied during the present season, to the extent of their capacity?"

I incline to the opinion they have not.

"If not, what amount of coal, in your opinion, are they capable of sending to market yearly?"

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*It ought to be understood that the Mahanoy coal basin, and this are two distinct coal formations.

It is impossible to give a correct answer to this part of the question, without a knowledge of each vein, the extent of each coal bed, and a thorough examination of each, in order to ascertain the number of hands that could be employed in mining the coal—a knowledge, this, which no person in Schuylkill county possesses, inasmuch as the needful investigation has not been made; and further, if this *knowledge* were attained, none but a *practical* man could apply it. It should be kept distinctly in view, that every thing in relation to mining operations in this county, is yet in its incipient stage.

Query 4. "From your knowledge and experience in the coal business, do you consider the incorporation of companies necessary to its successful prosecution?"

Most certainly I do; for which I assign the following reasons:

I. The expense of mining, on the present principle of working above water level, is great.

II. The expense of operating must soon of necessity be vastly increased, by having to sink below water level.

III. The uncertainty of success attendant on mining operations is so great, as to occasion considerable risk to the capital vested in it.

IV. As the knowledge of mining is very limited in the community, it is therefore extremely doubtful whether individuals of sufficient capital can be found, who would be willing to hazard so much in the enterprize as would give permanency and stability to the mining interests.

V. But a company, chartered with certain rights and privileges, individually risk much less, and in the event of loss or failure of success, are not reduced to poverty, because their all is is not embarked in the enterprize.

These are some of the reasons why I think it necessary that companies should be incorporated.

Query 5. "How are individual coal dealers affected by the acts and operations of incorporated coal companies?"

I should say beneficially: For, 1st, the amount of capital vested in the coal business, by companies, is such as, 2d, to give confidence to the public, that an effort will be made to furnish coal sufficient for home consumption and all foreign demand, which, 3d, will tend to bring the article into more general use; for preparations to burn coal being attended with some expense, many families and manufactories, and other large establishments, would be deterred from making such arrangements, unless there was a prospect of a constant supply, at a reasonable price; and, 4th, individuals who operate on a limited scale, must be benefitted by the stability the coal trade acquires, from the influence of incorporated companies.

"And what effect, if any, has been produced by the extension of time and charters granted to certain companies, by the last Legislature?"

I would remark, that if no advantage has accrued but *one*, that is not of small importance in its bearing on individual operations, viz:—one of the companies to whom a charter was granted, has practically

demonstrated that there is coal below water level, at a depth of three hundred feet below the bottom of the creek, (following the vein.) This must be of importance to individuals who have nearly or entirely wrought out all the coal above water level; as they may now, with certainty, (should they possess pecuniary resources,) proceed to sinking shafts and making those preparations which are needful to mine in the depths of earth.

Query 6. "What do you consider to be the effect of incorporated companies upon the general prosperity of the country?"

Understanding this part of the question to be limited to companies incorporated for mining purposes, and the influence of such companies on the particular district in which they operate, I would say they have been, to this region, what the sun is to the solar system—its life and being. Facts in abundance speak a plain language on this subject. The population of this region was thin; the quantity of coal sent to the landings was small; the method of transporting it thither was difficult and tedious, prior to the establishment of companies; and had it not been for them, we might probably have still been dragging, with four horses, two tons of coal along muddy roads; and in the place of shipping thousands of tons to foreign markets, supplied Philadelphia market with bushels. With respect to the influence of companies on the rise, advancement and present state of Pottsville, there can be but one opinion among judicious and unbiased men, and that entirely favourable. The millions of dollars they have thrown into circulation, have been a great mean of support to many merchants, storekeepers, mechanics, &c., and undoubtedly one cause of their settling themselves as permanent citizens in the place.

"And wherein does a population or community, growing up under such companies, *differ* from that created by individual operators?"

In regard to the specific difference of a community growing up under a company, or under individual operation, it may be considered *physically*, *morally*, or in respect to their *domestic* or *itinerant* habits.

I. Physically.—With regard to their physical construction, I have never been able to discover any marked difference, only this—they generally enjoy better health.

II. With respect to their moral condition, the facts, which have come under my own observation, (and I have been an observer of things now for more than twenty years) are decidedly in favour of a community growing up under companies, the greatest part of them are more steady, sober, and orderly; and I will venture an assertion, that there is not one-tenth the number of insolvent debtors in the latter, as in the former community.

III. In reference to their habits, they are more domestic and settled. Those persons who have families prefering to work for companies even at lower wages, (as a proof of this, there are men now in this company's employ, who have had two dollars per week more offered by individuals than they were receiving from the company,) because they can have regular and constant employ, this should be

seriously weighed; for, on whom does the merchant and mechanic in this region principally depend?—the miner: and if the honourable committee wish a practical proof of these things, they have only to visit Pottsville at the present time, and they will see a great majority of those men in the employ of companies, crowding the different churches every Sabbath, which is the greatest honour to any community.

Query 7. "In the present state of improvement in the coal region, what amount of capital is requisite to a proper and successful prosecution of the coal business?"

I should say, for cash concern operating to the extent of the North American company which I represent, $300,000, exclusive of the lands and necessary improvements and fixtures for the convenient prosecution of the business; $100,000 cash capital, which is about equal to $4 for each ton mined and sent to market, for it should be remembered that the coal business must be conducted on the principle of cash payments; the miner must receive his wages every week; the toll and freight must be paid on every boat load; and in order to have any thing like a supply in market, it will be necessary to have something like 5,000 tons in New York, which will cost $30,000; 3,000 tons in Boston, cost $18,000; and then reckon only 3,000 tons more for the other eastern markets, at $18,000, and then allow 5,000 tons for Philadelphia, at $4 per ton, $20,000, this would make an aggregate of 16,000 tons of coal, at a cost of $86,000. Now on the supposition there should come a very mild winter and only one half of the above quantity of coal should be sold, the next year the individual operator would be under the necessity of discharging a number of his hands unless he should be able to obtain a loan on his coal, which would assist him in prosecuting his business. It must be obvious, therefore, that in such a precarious state of things, the workmen and their families would probably become chargeable to the township.

Query 8. "Can the mining and transportation of coal be carried on as economically by individuals as by incorporated companies?"

Yes—providing individuals with a capital equivalent to that of a company were to enter into the business, for it should be recollected that nearly the same expense in agency is incurred in the shipment of 2,000 tons, that is required for the shipment of 20,000 tons.

Query 9. "Do you consider the means of individual coal dealers in the region competent to supply the market?"

In answering the 7th query, it is stated what amount of capital is needful for one individual to have in order to his carrying on the coal business to advantage to himself and the community; and in answer, I would say, (according to my scanty knowledge of the individual operators in this region,) they are not competent to supply the market.

Query 10. "Is not the consumption of coal increased by having a constant supply in market?"

It unquestionably is—and for this reason there ought to be at least 150,000 tons in market, over a supply.

"And what has been the average rate of increase from the opening of the coal trade to the present time?"

I have not the means at hand to ascertain this, but the Schuylkill Navigation company's books will exhibit it, and I have understood that a transcript of them is or will shortly be given to the public.

Query 11. "What amount of capital do you suppose has been invested by individuals in the coal business, and improvements connected therewith?"

I cannot correctly answer this, inasmuch as I have no means of ascertaining what amount of capital each individual operator has vested in the business, or what amount each has expended in opening veins, constructing lateral rail-roads, &c.; and it will be seen at once that this cannot be known without personal communications from them, which perhaps few would be willing to make.

Query 12. This will obtain the most satisfactory answer in the transcript from the book of the Schuylkill Navigation company, before referred to.

Query 13. "What number of colliery establishments is *now* worked by individuals in the coal region?"

These are comparatively few, as many have stopped their operations.

"And how many by incorporated companies?"

I believe *all* the incorporated companies in the region have their establishments at work as usual.

Query 14. "Were the mining business confined exclusively to individuals, would it not necessarily fall into the hands of rich capitalists?"

I am inclined to the opinion it would *not*, from the reason assigned under query No. 4.

Gentlemen:—It will be observed by the above remarks, that I am decidedly in favor of incorporate companies, for mining purposes, because I have witnessed the benefits resulting from such establishments in a country where *mining* as a natural consequence must be better understood than it is in this region; yet I, as an individual, would ever pray that the honourable the legislative body of Pennsylvania would never grant unlimited charters to any number of men; for though I do believe it absolutely necessary to have chartered companies, yet I do believe it to be absolutely wrong for those companies to have the privilege of opening stores or of having any thing whatever to do with stores, directly or indirectly, such as giving orders, &c. &c.; but let the companies pay their men in cash, which has always been the case with those companies who operate under charters in this place.

I remain your obedient servant,

WM. MILNES, Mine Agent.

NO. 9.

Answers of John C. Ernst to queries submitted to the Coal dealers of Schuylkill county, by the committee appointed by the Senate of Pennsylvania, to investigate the state of the Coal trade, &c. &c.

To query 1.—I have been living in the coal region nearly four years, and have been engaged more or less in the coal business in my individual capacity during that time, but this year owing to the state of the market have mined only about one thousand tons. I feel free to say that the only serious difficulty we have to contend with, is the want of a steady and sufficient market; with the certainty of that, individual enterprise would be sufficient to supply any requisite amount of coal. An individual with no more capital than is necessary in many branches of business now carried on by individuals, can mine to the same extent as an incorporated company, the mining of coal being of such a nature that after the first expense of two or three thousand dollars, it only requires an increase of miners to produce coal to an indefinite amount.

To the 2.—This I believe is fully and correctly answered by a statement to the visiting committee.

To the 3.—The mines now opened have not been worked this season to the extent of their capacity; had there been a certainty of a market the amount could easily have been doubled. For my own part I could have mined four times the quantity I did, had there been a certainty of sales.

To the 4.—I feel confident that the incorporation of companies is not necessary to the successful prosecution of the coal business.

To the 5.—Principally by having the market forestalled by numerous agents which individuals cannot afford to employ, and by publishing exaggerated statements of what they *intend* to do, thereby keeping purchasers out of the market until near the close of the season when it is found they cannot fulfil their promises.

To the 6.—I cannot answer this better than to refer the committee to what they have seen at Pottsville, and the different stations of incorporated companies.

To the 7.—Cannot say, but give us the market and any amount of capital will be furnished.

To the 8.—Judging from the past I should say much more so.

To the 9.—Answered in the seventh.

To the 10.—Undoubtedly, but the large surplus on hand in the spring, has been a serious evil, and caused the stopping of many of our mines and also a great fluctuation in the business.

To the 11.—I do not know, but the amount must be immense.

To the 12.—Have not examined, but there are more than can be profitably employed.

To the 13.—Have not for myself examined, but under existing circumstances there are too many.

JOHN C. ERNST.

NO. 10.

Answers of Hodgson, Pinkerton, & Co., to the queries of the committee appointed by the Senate of Pennsylvania, to investigate the state of the coal trade.

To the 1.—We do not operate under any charter—have been two years nearly in the coal trade, but only one in active operation,—during that year have mined about five to six thousand tons—should have doubled or trebled that quantity, if it had not been for a very extensive fault in the vein.

To the 2.—Can give no answer to this query.

To the 3.—Should say the mines now opened with the improvements connected with them, have not been worked to half the extent they are capable of,—it would be difficult to fix any limit to the quantity which might be sent to market from them.

To the 4.—We do not consider incorporated companies necessary for the successful prosecution of the coal business, any more than we should consider them necessary for tilling the soil.

To the 5 and 6,—An answer to these queries, involves so many considerations, and would lead to such a lengthy detail, that we pass them by, merely stating, as regards the first query, our decided conviction that the interest of individual operators are so materially affected by chartered companies, that the former must be ruined and driven from their business and their homes by the latter. And as regards the second query, we consider a community growing up under an extensive chartered company, as dangerous to the republican institutions of this country, inasmuch as a great body of men would be placed so perfectly under the control of their employers, as to be compelled to vote on all questions, as their employers wished, or take the alternative of being sent about their business.

To the 7.—The capital required to carry on a coal mining business would be more or less according to the extent of business aimed at. Five hundred dollars would be sufficient for some—five thousand for others,—and fifteen thousand would not be enough for others. A great deal would depend upon where the business ended; whether the coal was sold on the spot where mined, or sent by the miner to a distant market.

To the 8.—There is no doubt that a business of moderate extent can be carried on more economically by individuals than by incorporated companies.

To the 9.—The capital or means of individual coal dealers, is sufficient and would be found to be at all times sufficient for any extended operations, provided there was a certainty of Legislative protection against chartered monopolies.

To the 10.—No doubt the consumption of coal is increased, and will be increased by having a constant supply in the market, and this supply, individual dealers would be able to keep up. We suppose the increase of consumption to have been thirty to thirty six per cent, per annum.

To the 11, 12, and 13.—We take it for granted there are persons more competent than we are, to answer these queries, from having been longer, and more extensively engaged in business.

HODGSON, PINKERTON, & Co.

Port Carbon, Oct. 14, 1833.

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NO. 11.

Answers to the queries submitted to the coal dealers of Schuylkill county, by the committee appointed by the Senate of Pennsylvania.

The subscribers having examined the queries submitted by the committee, and believing they have not sufficient leisure to take up and fully answer all of them, have caused the following summary to be drawn up as expressive of their opinions on some of the more important of them.

To the 1.—We say that we have all been engaged in the coal business, some for a longer, and some for a shorter period, and also to various extents. We all operate in our individual capacities wholly unconnected with any charter.

To the 2.—This query as well as several others requires considerable statistical knowledge to answer it. And being informed that the collection of this has been confided to competent persons and that an abstract of their labors has been forwarded to the committee, we shall in answer to this and others of the like kind refer the committee to the information above mentioned, expressing at the some time our full confidence in its general correctness.

To the 3.—The rail roads now constructed and mines opened have not been occupied to near their full capacity during the past season. The mines could readily yield double, and the rail roads pass five times the present annual quantity.

To the 4.—We do not consider the incorporation of companies necessary for carrying on the coal business, any more than for carrying on any other kind of business commonly left to individual enterprize, more particularly at the present time, as the complaint now is not of a want of coal, but of a market to vend it in.

To the 5.—We believe that incorporated companies injure individuals in their business by the panic which by various means they annually produce in the market, thus deterring individual dealers from entering vigorously into the business in the early and best part of the season, it consequently languishes for the greater part of the season, until it is found that the companies either cannot or will not supply the demand, then there is a rush for coal and every thing is thrown into disorder. If the business were wholly in the hands of individuals, large capitalists would be induced to engage in it, and from their known sagacity and enterprize, joined to an open competition, the market would be well supplied, and kept in a steady and regular state.

The time elapsed since the granting of certain charters by the last Legislature is too short to judge of the effects that will be produced by that step, but it cannot do otherwise than tend to the aggravation of the evils hitherto felt.

To the 6.—We have not had sufficient opportunities of examining what effect incorporated companies may have produced on other districts, but in ours they have added but little to our improvements, or to our institutions social, religious or literary. We do not believe putting a district of country under the control of an incorporated company will produce either independence of character or freedom of thought or action in its inhabitants. On the contrary, when they are dependent on one source alone for bread, they will soon become so for their opinions also.

To the 7.—When the coal business comes to be divided into that number of branches which the common sense of mankind would soon do if the trade were left to regulate itself, a small capital will be sufficient for the part of the business properly belonging to this region. This business, like many others commonly pursued, admits of a larger or smaller capital being used according to the means or inclination of those engaged in it.

To the 8.—We do not believe that incorporated companies can mine and transport coal as cheap as individuals in a fair open competition. Their affairs always have been and always must be managed by those unacquainted with the business they are conducting. The detail and practical part must necessarily be committed to agents, and agents have never been known to manage as economically for their principals, as individuals conducting their own business.

To the 9.—We have no doubt but that the means of individuals are fully competent to supply all the coal required from this region, and further that capital will flow into the business as fast as wanted if the investments of individuals are not interfered with.

To the 10.—We are fully convinced that the consumption of coal is increased by having a constant supply in the market, equally with all other leading articles, and that there is no surer way to accomplish this object than to throw the trade open to the widest possible competition.

To the 11, 12, & 13.—We decline answering those queries for reasons stated in our answer to the second.

ISAAC BECK,	M. WEAVER,
PETER KERN,	ALFRED LAWTON,
JNO. HUGHES,	THOS. SILLYMAN,
FRANCIS WADE,	FRANCIS S. HUBLEY.
THO. C. WILLIAMS,	JACOB KLINE,
CHAS. LAWTON,	JOHN STRAUCH.

Pottsville, December 27th, 1833.

[Many other communications were received from individual coal dealers, concurring fully with the views above expressed, and it has therefore been considered unnecessary to insert them. S. J. P.]

No. 12.

Answers of Dan. R. Bennett, to questions submitted to the Coal Dealers of Schuylkill county, by the committee appointed by the Senate of Pennsylvania, to investigate the state of the Coal Trade, &c. &c.

1. I have been engaged in the coal business three years—was prepared to mine and send to market the present year six thousand tons, but owing to the depraved state of the trade, did not exceed one half that quantity.

3. As far as my observations extend, the mines already opened have not been worked to one half their capacity. The rail-roads and other improvements connected with the business, are sufficient for at least double the amount of tonnage of the present year.

4. I do not consider incorporations necessary to a successful prosecution of the business.

6. I believe the fluctuations of the trade, that have been injurious to the individual dealer in many instances, and oppressive to the consumers in others, to be *one* of the effects produced by incorporated companies, profits on *stock* being their object, rather than those to be derived from the coal business.

7. The mining and transportation of coal can be conducted more economically by individuals than by companies. The necessary agencies of the latter forming a heavy item of expense, to which the former is not subject.

8. The means of individual operators in the region is competent to supply the market, provided, the business could be reduced to cash or short credits.

DAN. R. BENNETT.

NO. 13.

Answer of Jacob Serrill to the queries submitted to the coal dealers of Schuylkill county by the committee appointed by the Senate of Pennsylvania.

1st.—I have been engaged in the coal trade four years and operate in my private capacity. I have thirteen thousand dollars in land and improvements in Schuylkill county, connected with my coal operations. In 1831 I sent to market one thousand tons,—in 1832, I sent seven thousand five hundred tons,—in 1833, I sent about five thousand tons,—anticipate sending next year ten thousand tons.

2d.—Not sufficient information to answer.

3d—The mines now opened, are capable of yielding double the quantity that they have this year, if there be a demand.

4th.—I do not consider incorporated companies any advantage generally to the community, nor at all necessary for the prosecution of the coal trade.

5th.—Individual coal dealers are injured by the long credits given by the companies. They not being individually responsible are not so particular as individuals.

6th.—The great object in getting incorporated is to dispose of the lands, by selling it out in stock, which is much easier effected than by selling it per acre. The citizens are liable to be defrauded by the value of those operations being exaggerated. A person wishing to sell out his land and operations I would advise to get incorporated. He could distribute stock to those he could not sell coal land to.

7th.—As the coal trade has been heretofore, I consider eight thousand dollars active capital sufficient for ten thousand tons business annually.

8th.—I consider the mining and transportation of coal can be carried on cheaper by individuals than companies. Agents generally acting are not so economical as persons immediately interested. They also look to do a large business and make much more *waste* and wear and tear, than by individuals.

9th.—I consider the capital of individuals now operating in the coal trade, fully adequate to supply any actual demand there may be hereafter.

10th.—I believe the consumption of coal is increased by having a constant supply on hand, and I believe individuals are as likely to have it on hands as companies.

The 11th, 12th and 13th queries, no information on the subjects.

Very respectfully,

JACOB SERRILL.

Philadelphia, November 15, 1833.

No. 14.

Statements prepared by Col. KREBS, *a member of the committee, and inserted at their request.*

In the year 1831, coal was sold during the early part of summer, in Philadelphia, as low as $4 50 per ton, delivered. In the fall and winter, it rose to eight and ten dollars. The same winter, coal sold in New York as high as from fourteen to sixteen dollars per ton. In the year 1832, the average price in Philadelphia was about $6 50 per ton, and in New York at about $8 50 per ton. During the present year, coal has been sold in Philadelphia by the boat or cargo, at $4 00 to $4 25 per ton. The average price in New York, this year, has been about $5 50 for Lackawanna. The average value of coal, delivered at Philadelphia, by the cargo or large quantity, may be stated at $4 25 per ton, and in New York at about $6 00, the difference being the cost of freight between the two places.

The boats now built, carry about 45 tons, and perform a trip to Philadelphia and back in ten or twelve days. The usual rate of wages paid to miners, is from six to seven dollars per week.

The cost of mining coal seems to be very similar in all the coal districts; coal rent or coal leases varies from 25 to 40 cents per ton, according to the goodness of the bed, the quality of the coal and con-

venience to the navigation. Two dollars per ton may be taken as about the average price of coal delivered into boats at the Pottsville landings; from thence to Philadelphia, the usual freight is about $1 25, and the toll one dollar. The price of coal at Pottsville, and the canal freights to Philadelphia, have each been much higher and sometimes lower than the sum stated, but these it is believed are fair renumerating prices. This makes the coal at Philadelphia, cost $4 25 per ton.

The operation of getting coal consists of mining or quarrying the coal in the mine; the coal is then broken into a size convenient for handling—then placed in the gangway, and is then hauled out to the bank, where it is screened and cleaned; and reloaded into the rail-road wagons. These wagons are then sent down the main rail-road to the landings at the navigation; the coal is then let fall through the bottom into the canal boat.

It is estimated that the coal trade the present year has given employment to upwards of 6,000 miners, labourers and boatmen, besides the necessary compliment of store keepers, mechanics, butchers, farmers and market people to furnish provisions, build houses and boats, and repair them, &c. &c. If we state the value of coal when delivered at the sea board at an average price of $5 00 per ton, it will give the sum of $2,500,000 as a capital created by the labor of those engaged in sending 500,000 tons of coal to market.

The coal trade of Great Britain now amounts to 15,000,000 of tons annually, and is very justly considered the most valuable source of wealth and industry of the most remarkably rich and productive empire. A large portion of the whole population of the kingdom is directly or indirectly engaged in or supported by it; her manufacturers which furnish her people daily food, the rest with opulence and the government with revenue to an extent beyond example in ancient or modern times, could not exist or the nation itself endure, but for the abundant supply of cheap fuel. It can scarcely be imagined that the course of human events will bring the United States into a similar situation. But it may not be many years before the Atlantic States and the countries contiguous to the coal fields, will use proportionably as much coal as the people of England. Our people are as enterprising, as industrious, and as much disposed to manufacturing pursuits as the English. It is therefore presumable that the portion similarly circumstanced, will make a corresponding consumption of coal; and that this will follow upon the increase of population and the demand made for the article by the extension of manufactories.

It is computed upon the experience of Great Britain and other countries, that the consumption of fuel is fully equal to one ton of coal for each inhabitant; and that there are between three and four millions of persons in the United States residing within reach of our several districts, and who it is supposed will use the coal so soon as it can be furnished to them at reasonable rates; and that this may be expected to take place within a period of ten years from the present time, consequently the trade would then amount to from three to four

millions of tons annually, and be worth from fifteen to twenty millions of dollars.

In a report respecting the coal trade of England, made by a committee of the House of Commons, in July, 1830, it is considered by the coal dealers of that country of such importance for the supply to be graduated by the demand, that they have established a regulation, prescribing the precise quantity of coal which shall be furnished monthly by each coal owner, from the mines, included within the regulation.

The difference between a coal region worked by individual owners and one worked by an incorporated company, is, that in the former case the proprietor or coal owner with their families, together with the operatives and their families, become permanent residents of the district; those collect around them a population equal in extent to their own, of store keepers, mechanics, professional persons, and all the appliances of civilization, necessary to render society respectable and happy; the country is embellished and enriched and made capable of becoming the seat of commerce and manufactures, and of sustaining a large population independently of the coal trade.

In case of incorporated coal companies, they impoverish the country by draining it of its mineral treasures, and making no provision for its cultivation and improvement, as in the case of the companies just mentioned, they rarely furnish the district with a permanent resident; the miners, workmen and managers and superintendents are mere tenants at will from day to day, and know not the moment they may receive orders from the board of directors to leave the district.

The stockholders of a company cannot be expected in the nature of things to become residents of a coal region. They are understood generally to be large capitalists, who subscribe small amounts, or they are speculators in stock, either of which class would be out of their element in the coal district.

The profits of the business are therefore sent out of the region as dividends to be expended to enrich distant places, and perhaps foreign States.

The operation of incorporated coal companies with non-resident stockholders upon the improvement of the coal region, is similar to that charged upon the Irish absentee landlord—they impoverish the country by expending the revenues drawn from it in foreign places.

It is considered by experienced dealers in coal, that the coal business would be best divided into three or four distinct branches, viz: one party may be the owner of coal land, another may open and work the mines, a third may own boats and carry the coal to market, a fourth may be a factor or coal merchant, to which a fifth might perhaps be added, a shipping or foreign merchant. Such a division of the trade is said to be universally practised in England, and has been acted upon to some extent at the Schuylkill mines, with decided advantage. The miner would rent mines, open and work them, and sell his coal to the boatman or boat owner at the landings; the boat owner would own as many boats as might suit his means; the mer-

chant would do a large or small business according to his abilities, as in all other cases, &c. This division of the coal business would bring it within the means of the large mass of tradesmen of the country; it would lessen risks add losses, and by admitting the personal scrutiny of the proprietor, each department would be conducted with precision and economy; the merchant would regulate his purchase to the demands of the market, and all employed in the trade would regulate their operations accordingly.

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No. 15.

ANSWERS OF JOHN WHITE, ESQ.

The undersigned respectfully makes the following answers to the "Queries submitted to the coal dealers of Schuylkill county by the committee appointed by the Senate of Pennsylvania to investigate the state of the coal trade, &c.

To the 1st Query.—I became interested in coal lands in Schuylkill county, about twelve years ago, on the 15th April, 1822. Seven other citizens of Pennsylvania and myself, (who had previously selected and purchased several tracts of coal lands with a view of conducting the business) entered into articles of association, by which each of us agreed to advance certain proportions of a "capital stock, to be expended in the purchase of coal lands and mines in Schuylkill county, and in procuring the necessary tools, implements and machinery to work the said mines and for buildings, and procuring the houses, boats and other things, necessary to prosecute the business of mining and transporting the coal to market." We brought some coal down the river in arks before the improvements of the Schuylkill navigation company were completed, and lost several thousand dollars in that and (to us) other unprofitable experiments and operations.

Finding by experience, that a business of that kind could not be safely or satisfactorily conducted by such an association, it was dissolved in 1826, the lands were sold at public sale, and the business closed at a loss. I increased my interest in the lands by purchasing in company with others, at the sale, a selected portion of them. With a view of having the mining business conducted on a much more extensive scale than it had been, and of introducing any improved method practised by the best miners in England, my new partners and myself furnished to a person who went to England for that purpose about one thousand dollars to pay the passage and expenses of miners, who had been brought up to that business. They arrived early in the year 1827, under an agreement that they would repay the advances we had made by a weekly per centage from their pay until the amount was refunded. We, however, had no benefit from the importation (except in common with the other land holders in the region) as some broke their agreements and deserted, and the others were dismissed for disorderly conduct &c. We lost nearly the whole cost of importing them. But their practical knowledge of mining,

and that of many others who were induced to follow on their own account, (from seeing that miners were in such demand in this country) were of great service in introducing most of the subsequent improvements in the business. Previous to this period the coal and water were raised in buckets with a windlass, by perpendicular shafts sunk in the vein. Raising it by horse gins and inclined planes, laid on the bottom slate, was first introduced about this time. Soon after the English miners introduced the method of mining by drifts, driven horizontally from the water level into the coal veins, the great advantage of which improved plan the committee saw for themselves in their visit last summer. We expended considerable sums of money in 1827 and 1828, in creating buildings, opening mines, and making other improvements, but did not get more than about three thousand tons of coal to market on our own account. We rented some of the mines, but soon found we could collect but a very small proportion of the stipulated rent. Having much increased my investments in Schuylkill property by purchase in the winter 1828, with a view to a more certain and a more extensive prosecution of the coal business, encouraged by the favourable notice taken in the report, made by the committee of internal improvement and adopted by our Legislature, of the incorporation of a coal company by the state of Delaware [see Journal of the House of Representatives, vol. 2, page 609,] myself and others were induced to become the holders of the stock of that company, and to contribute very largely to the commencement and construction of the Mount Carbon rail-road, the course of which as directed by the act just then passed, extended through the lands to which we applied the charter. That road was completed for use in the year 1831, and saves at least fifty cents per ton of the expense of transporting all the coal on it to the boats. In 1831, and the two previous years, we had also expended large sums of money in erecting buildings, constructing boats, driving drifts and tunnels, and making other improvements preparatory to our intended regular and extensive prosecution of the coal business; but we had mined and brought to market in that time but about sixteen thousand tons of coal, most of which was shipped coastwise, and disposed of in other markets, to introduce it into use, and to establish and sustain its character, some of it at a heavy loss, in competition with the coal imported from England and Nova Scotia. And, although this foreign coal is still imported in large quantities, I have no doubt, but that the superior bituminous and anthracite coal of this state, will in a few years, if mined and brought to market in sufficient quantities, supersede it. The coal wharves erected by the Delaware coal company at the mines, alongside of the Mount Carbon rail-road, together with the company's wharves at Mount Carbon, measure about two thousand feet long. The lateral mine wharf and coal bank rail-road are about five thousand feet long, besides the rail-roads, laid in the drifts, and tunnels under ground, all which together, are upwards of two miles in length. In the year 1832, the quantity of coal mined and brought to market by the Delaware coal company, amounted to twenty thou-

sand, two hundred and twenty-five tons, of which, fifteen thousand, seven hundred and twenty-four tons were sold and shipped in one hundred and sixty-nine vessels; the coastwise freight paid on it, amounted to upwards of thirty thousand dollars. In the year 1833, the quantity amounted to twenty-three thousand, five hundred and fifty-four tons, of which eighteen thousand, six hundred and eighty-seven tons were sold and shipped in one hundred and fifty-five vessels, the coastwise freight paid on it, amounted to upwards of thirty-two thousand dollars. A statement of the business of the company for eleven months of the last year, and a general statement of its affairs on the 30th November last, are contained in a report, made to the Legislature at the present session in conformity to the acts of incorporation, copies of which, with the report of an experienced and competent mine engineer and underground surveyor, of the state of the company's mines are herewith submitted as a part of my answer to the enquiries of the committee.

From these documents, it will be seen that Mr. Wilde estimates the quantity of coal which may be brought to market, (making ample allowance for loss,) from the company's mines now opened and ready for working above the water level, between the two branches of the Mount Carbon rail-road, to be two millions three hundred and forty thousand one hundred and seventy-three tons; and as all the mines of the company lying between those roads are not yet opened and the company own a larger quantity of land in the same coal range, beyond the "two branches," it may fairly be presumed they may take at least as much more coal from above the water level, in their mines yet to be opened. The general statement of the affairs of the company, on the 30th November, exhibits the following:

Real Estate:		
Coal lands, wharves and warehouses at Mount Carbon,		$180,533 27
Personal Estate:		
Cash on hand,	$4,637 53	
Coal at Philadelphia,	11,329 50	
Canal boats,	9,728 16	
Rail-road and mine wagons, and other articles of personal property necessary to be used in the business,	12,338 75	
Balance of account in favour of the company,	38,401 18	—76,435 12
Together amounting to,		$256,968 39
The debts of the company, including loan certificates payable in 1837 or 1842, (at the option of the holders,) together amount to	$78,903 03	
The amount of capital stock actually paid in,	149,750 00	—228,653 03
Leaving a surplus to the credit of profit and loss of		$28,315 36

after charging to that account the whole amount expended in driving

drifts, tunnels, &c. in the years of 1832 and 1833. Out of this surplus a dividend of six per cent. amounting to $8,985, has since been declared.

The value of lands in every coal region varies very much, and in none more than in Schuylkill county, where, in addition to its being influenced by the location, the quality of the coal and the expense of mining and transporting it to the canal. Much also depends upon the quantity of coal that can be taken from above the water level, without much expense, by drifts and tunnels. The Delaware coal company, having been organized under a charter from another state, did not consider it safe to hold the fee simple title to lands in Pennsylvania. The purchaser of the lands gave mortgages which were assigned to the company. Since the act of incorporation by Pennsylvania, the fee simple title to the lands has been made to the company. It now owns about one thousand acres of land, *all coal lands.* Its location, and the quality of the coal, are at least equal to any other in the country. These lands have drifts opened, capable of yielding annually (where the demand shall at a future day justify it) one hundred thousand tons per annum. The lands, landings and warehouses were not purchased until particularly examined by a very intelligent committee of the stockholders.

The company, within the past year, has purchased one half of a tract of which they before owned the other half, (which has always been estimated as of less value than their other lands,) at $200 per acre. Another tract, adjoining, within the same period, has been purchased by two very intelligent gentlemen, one of them residing at Pottsville, at $250 per acre; and very recently, about eleven acres, also adjoining, (commanding the water level, but on which the coal had nearly been exhausted) has also been purchased by these same gentlemen, for upwards of three thousand dollars. By the statement of the business of the company in 1833, it will be seen that the depreciation in value, by use, &c. of rail-road and mine wagons, horses, mining tools, &c. used in the business, had in eleven months amounted to one thousand three hundred and sixty-eight dollars thirty-six cents, or nearly six cents per ton on the quantity of coal transported from the mines to the boats. A very capable, careful and faithful manager, a short haul over a good rail road and the best arrangements for loading and unloading the coal, are all necessary to do the work at so small an expense of wear and tear. No allowance was made for depreciation in the value of the company's coal boats, as most of them had very recently been purchased at a low cash valuation by three very competent judges of such property. The others had been built during the year and were credited for freight on the coal they had brought down at the current rate. The wear and tear and cost of building new and preparing coal boats may be estimated at at least twenty five per cent per annum, of the amount of capital invested in them

To the 2d.—I do not know the number of lateral rail roads in the region. Most of them have been made by the owners, and for the

exclusive use of the mines to which they are carried. The principal rail roads have all been made by incorporated companies; they are

The Schuylkill valley rail road, about	10	miles long.
The Mill Creek, do.	4	do.
The Schuylkill Haven and Mine Hill,	17	do.
The Mount Carbon, Danville and Pottsville,	18	do.
The Little Schuylkill,	20	do.

The construction of all of them together has cost nearly a million of dollars, more than three-fifths of which have been paid by the stockholders of incorporated coal companies. The other subscriptions form a very small proportion of the aggregate cost, it having been made up principally by loans on mortgages on roads and unliquidated debt, most of which is held in Philadelphia. The Danville and Pottsville rail road company, and the Little Schuylkill company, both have mining privileges. A very large proportion of the whole amount of the cost of the Mount Carbon rail road was contributed and raised by those largely interested in incorporated companies, having mining privileges, and the Schuylkill Haven and Mine Hill rail road company was projected, and a large proportion of the original subscription of stock to that road was made by the New York and Schuylkill coal company.

The mines now opened and the rail roads and other improvements now completed in the Schuylkill coal region have not been worked and occupied during the last season to the extent of their capacity. This was the case with the mines of the Delaware coal company and the rail roads it uses. More than one half of its mines which had been opened and prepared for mining were not worked at all, such also has been the case at many other collieries in the region. It was estimated about a year ago by the mining association of Schuylkill county that it would require all the drifts to be put in order and worked vigorously during the past season to produce two hundred and seventy thousand tons of coal. The quantity actually mined and shipped was two hundred and fifty thousand five hundred and eighty eight tons. I believed then as I now do, that much more than they estimated might have been mined if the drifts had all been put in order and worked vigorously. I do not consider myself competent to estimate the quantity of coal they are capable of sending to market yearly. The quantity of coal which even the most experienced miners may estimate can be taken in a given time from a drift or vein of coal with which they are well acquainted, is not generally to be relied on. It is liable to be influenced by contingencies which none can foresee and which frequently totally disappoint their most confident calculations. I do not believe there is an individual in the region who has such knowledge of the different coal veins opened as would enable him with pretensions to accuracy to make an estimate that could at all be relied on, of the quantity that could be mined and brought to market from them yearly. The rail roads are capable, (if kept in good order,) of passing a larger quantity than the canal could give vent to. I have estimated the capacity of the

canal after the locks are doubled and some other improvements made, if good boats are employed and proper regulations adopted, as being at least equal to the transportation of a million of tons per annum.

To the queries 4, 5, 6, 7, 8 & 9.—From my knowledge and experience in the coal business, I DO consider the employment of large capitals, at least by a portion of those engaged in it, necessary to promote the best interest of all parties, both producers and consumers.—I mean capital beyond that which may be invested in lands, rail-road wagons, canal boats, &c. &c. Whether that capital is brought into the business by incorporated companies, (having no other privileges than those granted by the Legislature to the four companies incorporated at its last session,) or by individuals, can make no other difference to the community than this:—In companies, many individuals (as in the extensive manufactories of New England) may unite their comparatively small means, and each participate in the advantages, if there be any to them, of jointly making up the large capital wanted, and thus prevent the business from falling into the hands of *a few* large and wealthy capitalists. But the fact is indisputable, that altho' several large capitalists have purchased coal-lands on speculation, and some with the expectation of obtaining large incomes from them in rents, few of them have been willing to expend much capital, even in opening their coal veins and preparing them for working. None have yet been willing to risk the capital requisite to carry on the business, on their own individual account, to any considerable extent.

No individual coal dealer has been injuriously affected by the extension of time and charters granted to certain companies, by the last Legislature. It is confidently believed the interests of individual dealers, as well as the public at large, will be benefitted by those acts.

The Delaware coal company have sent all the coal they mined down the canal, and sold and shipped a large portion of it to other markets. Their coal has all been of such quality, and brought to market in such order, as to raise the character of Schuylkill coal, and increase the demand for it in other markets. They have refused to submit to any reduction, during the season, from the prices fixed at its commencement. It is not complained of, by them, that individuals have, during the whole season, undersold them. They had a right to do so, and could afford it, if, as is generally conceded, the business can be carried on more economically by individuals than by incorparated companies. That no injurious effect has been produced by the operations of incorporated companies in the Schuylkill region, may be considered as at least admitted, if not proved, by the "reports of the board of trade, to the mining association of Schuylkill county," composed exclusively of master colliers and those connected with mining, "whose object and duty, by their constitution, it is to protect and promote the interests of its members, and who would most undoubtedly have made it a prominent part of their report, if they had thought the companies recognized by the Legislature last winter had injuriously affected the interests of 'master colliers and those connected with mining.' If the mines belonging to the companies had been

divided among many individuals, they probably would have had a much larger quantity taken out, and the coal sold at the landings, or forced off in the Philadelphia market, possibly would have operated to their own injury, and most probably to the injury of others engaged in the same business, and eventually also to the injury of the public, by reducing the prices so low as to drive out of the business all those engaged in working mines, whose locations were not so favourable or advantageous.

The companies have been of service to the mining interests on the Schuylkill, by keeping in *constant* employment a larger number of miners than would have been employed by individuals in mining the same quantity of coal, and in the prompt payments they have uniformly made to the large number of miners, labourers and boatmen in their employ.

The effects that will be produced by the incorporations granted to the two companies on the Susquehanna, will, without doubt, also be very beneficial to the State, and particularly to the region in which they are located, by introducing capital for the employment of labour, and by introducing into use the inexhaustible quantities of superior bituminous coal of that region—an article indispensable in many branches of the arts, and for which the United States have annually imported very large quantities from England and the mines of Nova Scotia.

The effect of incorporated companies, strictly limited in their objects, and under proper responsibility for the security of the public, has been found highly favourable to the public at large in New England, where acts of incorporation have been freely granted, under such proper restriction as ought always to be inserted in them. The security of the public against loss, monopoly, or improper conduct of any kind, by the company, should in all cases be most carefully guarded against.

It will be seen by the act of incorporation, and by the statement furnished to the Legislature by the Delaware coal company, in conformity to its provisions, that the holders of four thousand and ten shares of its stock, on which but one-half or twenty-five dollars per share has been paid, are "each in his individual capacity liable for the debts and performance of all contracts entered into by said corporation, to the amount of the balance unpaid on the stock of such stockholders." This gives to its creditors, personal security to the amount of one million two hundred and fifty thousand dollars beyond the capital actually paid in. No kind of monopoly or exclusive privilege has been granted to them, nor has any been attempted to be obtained or exercised; and the Legislature reserves to itself the right, as in other cases, of repealing the charters granted, which ought and no doubt would be exercised, in regard to either or all of the companies that should pursue a course of policy injurious to the best interests of the community.

Exclusive of the cost of the coal lands and the sums expended in building miners' houses, wharves, screens, &c., and in opening and preparing the mines for working, laying the necessary lateral rail-

roads, &c., together making the preparatory capital invested in real estate, the amount of capital requisite to a proper and successful prosecution of the coal business, may, in my opinion, be estimated at an average of at least three dollars per ton, on the quantity of coal annually mined and carried to tide water. This estimate *includes* the outlay of capital in mining tools, mine and rail-road wagons, houses, boats, &c., as well as cash capital necessary to mine and transport the coal to market. Whether the land-owner mines the coal himself and transports it to market with his own means, or it is done by others, makes no difference in the amount of capital necessary to be employed in the business. It has varied in different years since I have been engaged in it, as the article has been more or less in demand. The small proportion of the whole quantity mined, which is sold at the landings to consumers, requires but very little cash capital to conduct the business. The larger proportion of the whole quantity mined, is transported to tide water and there sold, and requires the employment of an additional capital in boats, and cash necessary to pay boatmen, tolls, and other expenses. The time when sales can be effected, and the terms on which it can be sold, whether on long or on short credits, materally affect the amount of capital necessary to be employed. The credits generally given to cargo purchasers of Schuylkill coal, is from three to four months from the time of shipment, which averages about the middle of the season, say the 1st of August. It frequently happens that good purchasers cannot be met with at satisfactory prices, particularly in the early part of the season, and the owner, to avoid the inconvenience and great expense of either storing it at Philadelphia, or of stopping the transportation of it, ships it coastwise on his own account, and does not get his capital returned until it is purchased by the consumer, which is generally not until after the close of the season, and sometimes until the next, with the additional advance by him of the coastwise freight, &c.

To the 9th query.—The means of individual coal dealers in the region are in my opinion *entirely incompetent* to supply the market.

The mining and transportation of coal to market, at tide water, requires the employment of a larger cash capital, in proportion to the amount of the business, than any other I am acquainted with.

To the 10th query.—The consumption of coal is much increased, by having a constant supply in the market.

From the statements, herewith furnished, it will appear, that from the first commencement, in 1820, when three hundred and sixty-five tons was brought from the Lehigh, the quantity had increased to nine thousand, five hundred and forty-one tons in 1824. The next year, 1825, (the first in which toll was paid on coal brought down the Schuylkill) the whole quantity brought down the Lehigh and Schuylkill was thirty-three thousand, six hundred and ninety-nine tons. The consumption of the year ending 1st April, 1833, is estimated to have been three hundred and three thousand, eight hundred and seven-one tons, showing an average rate of increase of more than thirty-six per cent. per annum in the seven years from 1st April, 1826

to 1st April, 1833. [The tabular statements furnished by Mr. White, and above referred to will be found on pages 49 & 50 of the report. S. J. P.]

The consumption of coal varies much according to the greater or less severity of the winter. An early and severe winter greatly increases the consumption as well by the necessity of using more to supply the usual warmth as by its prevention of supplies of wood, in consequence of the freezing of the streams. If the last and the present winter had commenced as early, and been as severe as the winter of 1831—32, there would have been little or no surplus stock remaining on hand on the 1st of April.

The certainty of supply—the price, as well as the greater or less severity of the winter, all affect the consumption. An adequate amount of capital invested in the business by different hands is the best guarantee that can be given, that the supply shall be equal to the demand and the prices reasonable. The coal business in Pennsylvania is yet in its infancy, and has laboured under a want of experience in all its branches; the mode of raising and transporting it; the uses to which it was applicable; the quantity that could be introduced into consumption, had originally no basis of calculation to rest upon, and has been undergoing changes and modifications every year since the business commenced. No one would have been believed, who should have predicted ten years ago, that the consumption of the year, ending in April last, would exceed three hundred thousand tons, and that the price would be reduced more than three dollars per ton, yet in that short space of time all this has been effected by the improvements, as well in the mining region, as in the railways and canals, chiefly the fruits of enterprize and capitals of companies, without which it is matter of doubt whether the consumption would now reach fifty thousand tons in a year, or rather whether the trade itself would have had sufficient importance to deserve the name. A large proportion of the whole quantity brought to tide water is consumed in warming manufactories, in steam engines, and the various other purposes in manufactories, and the mechanics arts, to which it has been found to be so admirably adapted. About fifteen thousand tons was purchased last year for the town of Lowell alone—now rated the third in New England, it is situated about twenty-five miles from Boston, and has been built entirely since the coal trade began, and is famous for the manufactories conducted by nineteen incorporated companies, having an aggregate capital of more than six millions of dollars.

To the 11th.—The amount of capital invested in the improvements made by the Lehigh, the Delaware and Hudson, the Schuylkill navigation and the incorporated rail road and coal companies, together amount to about ten millions of dollars; as the stock and loans of all of them is mostly held by individuals, it may be considered as capital invested by individuals in the coal business, and *improvements connected therewith*; of the separate individual investments I cannot form any satisfactory estimate. The amount of capital *actually* invested is however, comparatively very small. Many of the contracts for

the purchase of lands and town lots in the Schuylkill coal region have been cancelled and the terms of others not complied with.

To the 12th.—I have heard the number of boats used in the coal trade on the Schuylkill navigation last season estimated as amounting to near six hundred, the use of them by individuals and companies respectively must have been in proportion to the quantity of coal sent down by them. There are some now building, but not enough to replace those which are so much worn out as not to be worth repairing. I have no doubt however, that the boats which can be used on the canal the approaching season are sufficient to bring more coal to market than the means of all now engaged in the business both individuals and companies will enable them to send. If five hundred boats were actually employed in sending coal to market the last season they did not average but fifty tons taken down by each. I estimate their avarage capability at at least fifty per cent more. It has until lately been impracticable with any reasonable certainty to estimate the quantity or the rate of freight at which coal could be brought to market. The extremely high freights paid in 1832 (a part of the season more than one half of the value of the coal after it was brought down) induced the building of a larger number of boats (in addition) than full employment at remunerating rates of freight could be had for the past season.

To the 13th.—I do not know the number of colliery establishments now or at any period of last year worked by individuals in the coal region. Each individual or company engaged in mining coal on his or their own account in one or more openings in one or more coal veins has a colliery establishment. With this view of the subject there are three colliery establishments in Schuylkill county worked by companies incorporated by the laws of this state, and I regret my information does not enable me to state the number of individuals who are, or were last year engaged in mining coal on their own account. By the statement which I have made and before referred to, accompanying these answers, the committee will see that two hundred and eighty persons and companies were engaged in transporting coal down the canal on their own account, during the last year, but a large proportion of them had nothing to do with mining the coal, and I know a number whose names do not appear as shippers that were engaged in mining and had colliery establishments of their own. The quantity of coal mined at the colliery establishments of individuals which was shipped down the canal was one hundred and sixty seven thousand five hundred tons, and by the companies incorporated by this state, viz:—Little Schuylkill company thirty seven thousand five hundred and six tons, the Delaware coal company twenty three thousand five hundred and thirty four tons, and the North American coal company twenty two thousand and forty eight tons.

To the 14th.—I have no doubt if the mining business was confined exclusively to individuals, that a large proportion of it would necessarily fall into the hands of rich capitalists.

All which is respectfully submitted,

JOHN WHITE.

Philadelphia, March 1, 1834.

No. 17.

Wilkesbarre, November 17, 1833.

Samuel J. Packer, Esq.

Dear Sir,—Your favour of the 7th instant was duly received. I avail myself of the first moment of leisure to give you "some account of the discovery of the Mauch Chunk coal, and the measures devised, at an early day, to bring it to Market." A hunter first discovered the black earth that covers the coal, at the old mine at Mauch Chunk, and reported the extraordinary appearance to Jacob Weiss, Esq., an intelligent gentleman, who resided at Lehighton, within ten or twelve miles of the spot. An examination was immediately made, and anthracite coal found within ten feet of the surface. The land being extremely rough and barren, had not been appropriated, but was, forthwith, taken out of the land office, by Mr. Weiss, and a company formed, principally of public spirited citizens of Philadelphia; the mine was partially opened, and some small parcels taken to the city. The difficulty of kindling the coal, and the facility of obtaining that from Liverpool and Virginia, prevented its introduction into use; and this, with a hundred other projects of the day, slept—was forgotten by the public, and scarcely remembered by the owners of the stock.

After twenty years repose, the subject was awakened by the late war. Jesse Fell, associate judge of Luzerne county, one of the most public spirited and estimable citizens of Wyoming, after various experiments, had shown the practicability of burning anthracite coal in grates; and the article had been extensively used in Wilkesbarre and the neighbouring towns, for several years previous to the commencement of hostilities; and the value of it here was known and properly appreciated. Commerce being suspended with England, and the coasting trade interrupted by British cruisers, so that neither foreign nor Virginia coal could be procured, fuel of all sorts, and especially coal, for manufacturing purposes, rose in Philadelphia, to very high prices. Jacob Cist, of Wilkesbarre, my intimate and much lamented friend, had derived from his father a few shares of the Lehigh coal company's stock. Sitting by a glowing anthracite fire, one evening in his parlour, conversation turned to the Lehigh coal, and we resolved to make an examination of the mines at Mauch Chunk, and the Lehigh river, to satisfy ourselves whether it would be practicable to convey coal from thence by the stream to Philadelphia. Mr. Robinson, a mutual friend, active as a man of business, united with us in the enterprize. Towards the close of 1813, we visited Mauch Chunk—examined the mines—made all the enquiries suggested by prudence respecting the navigation of the Lehigh, and made up our minds to hazard the experiment, if a sufficiently liberal arrangement could be made with the company. Our propositions were met with the utmost promptitude and liberality, by Godfrey Haga, the president, Mr. Wampole, secretary, and the members. A lease was obtained, giving us liberty, for ten years, to take what coal we pleased, and to use what lumber we could find and might need, on their tract

of ten thousand acres of land; the only consideration exacted being—that we should work the mines, and every year take to the city a small quantity of coal—the coal to remain our own. The extremely favourable terms of the lease, to us, will show how low the property was then estimated; how difficult a matter it was then deemed to bring the coal to market, and how great were the obstacles to bringing it into common use.

During the winter of 1813—'14, Mr. Robinson commenced operations, by opening the mines, both at Room run and on the mountain; but other more inviting objects presenting, he disposed of his part in the concern to William Hillhouse, of New Haven, Connecticut. Mr. Cist then managed his own part of the business. June 2d, 1814, Mr. Hillhouse and myself entered into partnership, the management being left principally with me.

The situation of Mauch Chunk, in the midst of barren mountains, and a sparse population, rendered it necessary to obtain provisions, teams, miners, ark builders, and other workmen, from a distance. I made immediate arrangements to enter in business, and on the 8th June arrived at Lausanne, (fifty miles from Wilkesbarre by the then travelled road,) with my hands, and took up my very comfortable quarters with Mr. Kletz.

On Tuesday the 9th of August, I being absent, and there being a fresh in the river, Mr. Cist started off my first ark, 65 feet long, 14 feet wide, with 24 tons of coal—John Rhoads, pilot—Abiel Abbott, [see note 1,] Daniel Blair, Jonathan Mott, Joseph Thomas, and John Thomas, on board as assistants. The stream wild—full of rocks, and the imperfect chanel crooked, in less than eighty rods from the place of starting, the ark struck on a ledge, and broke a hole in her bow. The lads stripped themselves nearly naked, to stop the rush of water with their clothes. At dusk they were at Easton, fifty miles. On Wednesday morning they failed from Easton, Peter Hawk, pilot; Daniel Blair and Joseph Thomas, assistants, Rhoads and the other hands returning; and at night the ark arrived at Black's eddy. Thursday, 11th, went six miles below Trenton. Here James Gedders, a new pilot, took her in charge, Hawk returning. Friday, 12th, arrived at Burlington—13th to Ten Mile point—Sunday, 14th, arrived at the city at 8 A. M.—Monday, unloaded and delivered the coal to Messrs. Steelwaggon & Knight, selected by Mr. Cist, as our agents.

Expenses of the passage and hands down and returning,	$ 28 27
Wages, including three pilots,	47 50
	$ 75 77
Ark (cost high from inconvenience of building,)	130
24 tons coal, raising from mine,	24
Hauling 9 miles to landing, at $4 a ton, [see note 2,]	96
Loading into ark,	5
	$330 77

So, that, in the first experiment, the coal cost us about fourteen dollars a ton in the city.

I have been somewhat minute in giving you these details, because this ark was the pioneer, and led off the coal trade by the Lehigh to Philadelphia, now so extensive and important. This effort of ours might be regarded as the acorn, from which has sprung the mighty oak of the Lehigh coal and navigation company.

But while we pushed forward our labours at the mine—hauling coal—building arks, &c., we had the greater difficulty to overcome of inducing the public to use our coal when brought to their doors, much as it was needed. We published hand-bills in English and German, stating the mode of burning the coal, either in grates, smith's fires, or in stoves. Numerous certificates were obtained and printed from blacksmiths and others, who had successfully used the anthracite. Mr. Cist formed a model of a coal stove, and got a number cast. Together we went to several houses in the city, and prevailed on the masters to allow us to kindle fires of anthracite in their grates, erected to burn Liverpool coal. We attended at blacksmiths' shops, and persuaded some to alter the *Too-iron*, so that they might burn the Lehigh coal; and we were sometimes obliged to bribe the journeymen to try the experiment fairly, so averse were they to learning the use of a new sort of fuel, so different from what they had been accustomed to. Great as were our united exertions, (and Mr. Cist, if they were meritorious, deserves the chief commendation,) necessity accomplished more for us than our own labours. Charcoal advanced in price, and was difficult to be got. Manufacturers were forced to try the experiment of using the anthracite; and every day's experience convinced them, and those who witnessed the fires, of the great value of this coal. Josiah White, then engaged in some manufacture of iron, with characteristic enterprize and spirit, brought the article into successful use in his works, and learned, as we have understood, from purchases made of our agent, its incomparable value.

We sent down a considerable number of arks, three out of four of which stove and sunk by the way. Heavy however, as was the loss it was lessened by the sale, at moderate prices, of the cargoes, as they lay along the shores, or in the bed of the Lehigh, to the smiths of Allenton, Bethlehem, and the country around, who drew them away when the water became low. We were just learning that our arks were far too large, and the loads too heavy for the stream, and were making preparations to build coal boats to carry eight or ten tons each, that would be connected together when they arrived at Easton. Much had been taught us by experience, but at a heavy cost, by the operations of 1814—15. Peace came, and found us in the midst of our enterprise. Philadelphia was now opened to foreign commerce and the coasting trade resumed. Liverpool and Richmond coal came in abundantly, and the hard-kindling anthracite fell to a price far below the cost of shipment. I need hardly add, the business was abandoned, leaving several hundred tons of coal at the pit's mouth, and the most costly part of the work done to take out some thousands of

tons more. Our disappointment and losses were met with the spirit of youth and enterprise. We turned our attention, to other branches of industry, but on looking back on the ruins of our (not unworthy) exertions, I have not ceased to hope and believe that the Lehigh navigation and coal company, when prosperity begins to reward them for their most valuable labors, would tender to us a fair compensation at least for the work done, and expenditures made which contributed directly to their advantage.

I mentioned that Josiah White had used coal sent down by us. Sagacious, ardent, and of expanded views, no mind in the city was more capable of seeing at a glance, to what account the vast deposites of coal might be turned. Perfecting an artificial navigation along a rapid river, was to him a familiar enterprise. With his partners Messrs. Hauto and Hazard he took measures to obtain possession of those mines, and a charter for the Lehigh navigation and coal company. The rest is matter of public history.

As one of the pioneers in the great work of introducing the use of Anthracite coal into our cities and upon the sea board, I cannot but look back with pride and pleasure, upon the success which has followed and grown upon our humble exertions, a success infinitely beyond the utmost stretch of our imaginations. Judging from what has been accomplished within the last ten years on the Lehigh, on the Schuylkill, and by the Hudson and Delaware coal company, I do not question that, in less than ten years more, Anthracite coal from the Wyoming and Lackawanna valleys, will be in extensive use throughout the Genessee country, on the lakes, at Detroit, Kingston, York, Montreal and Quebec.

Note 1.—My friend Mr. Abiel Abbott, who kindly volunteered his services to see the ark through the rough water, and to whose spirit we were mainly indebted for saving her from sinking when she stove on the rocks, is now justly raised by merit to the highly responsible station, of superintendent of the Lehigh navigation and coal company's extensive business at Mauch Chunk.

Note 2.—The fact may not be uninteresting, that we were obliged to pay four dollars, and for much of the coal hauled, four dollars and fifty cents a ton, over an exceedingly rough road of nine miles, where now by rail way, it is transported for twenty five cents a ton. Such are the triumphs of human industry and art! Such is the difference between the first experimental steps in a great undertaking, and the work perfected by capital and skill.

All which is respectfully submitted, by

Dear sir, your friend and servant,

CHARLES MINER.

No. 18.

Extracts from the First Report of the Pottsville Board of Trade.

So early as 1790, coal was known to abound in this county; but, it being of a different quality from that known to our smiths as bituminous coal, and being hard of ignition, it was deemed useless, until about the year 1795, when a blacksmith, named Whetstone, brought it into notice, by using it in his smithery. His success induced several to dig for coal, and, when found, to attempt the burning of it; but the difficulty was so great, that it did not succeed.

About the year 1800, a Mr. William Morris, who owned a large tract of land in the neighbourhood of Port Carbon, procured a quantity of coal, and took it to Philadelphia, but he was unable, with all his exertions, to bring it into notice; and abandoned all his plans, returned, and sold his lands to Mr. Pott, the late proprietor. From that time, to about the year 1808, no farther efforts to use it were made. About that time, in cutting the tale race, for the Valley Forge on the Schuylkill, they struck on a seam of coal, which induced David Berlin, a blacksmith in the neighbourhood, to make trial of it; his success was complete, and from that period, it has been partially used.

In the year 1812, our fellow citizen Col. George Shoemaker, procured a quantity of coal, from a shaft sunk on a tract he had recently purchased on the Norwegian, and now owned by the North American coal company, and known as the Centreville mines. With this he loaded nine wagons, and proceeded to Philadelphia; much time was spent by him in endeavouring to introduce it to notice, but all his efforts proved unavailing. Those who deigned to try it, declared Col. Shoemaker to be an imposter, for attempting to impose stone on them for coal, and were clamorous against him.

Not discouraged by the sneers and sarcams cast upon him, he persisted in the undertaking, and at last succeeded, in disposing of two loads, for the cost of transportation—and the remaining seven he gave to persons who promised to try to use it, and lost all the coal and charges.

Messrs. Mellon and Bishop, at the earnest solicitation of Col. Shoemaker, were induced to make trial of it in their rolling mill in Delaware county, and finding it to answer fully the character given it by Colonel Shoemaker, noticed its usefulness in the Philadelphia papers; and from that period, we may date the triumph of reason, aided by perseverance, over prejudice.

In the year 1813, several small openings were made in different parts of the county, by sinking shafts; and the coal, taken out, was vended to the smiths and others in the neighbourhood, at twenty-five cents per bushel, or three dollars and fifty cents per ton, at the pits mouth. These shafts were sunk but a few feet, in the *crop* of the vein; and the coal, raised by means of the common windlass and buckets, and so soon as they attained a depth where the water be-

came troublesome, (which seldom exceeded thirty feet,) the shaft was abandoned, and another sunk; and the same process undergone.

In the year 1823, an improvement was made in the mode of working, by substituting horse power and the gin, for the windlass heretofore used, by which they were enabled to clear the water from the shafts with greater facility, and to sink farther on the veins. But, with this, (as it was then conceived great improvement) they were only enabled to run down the vein for a short distance, and the coal in point of comparison was inferior, as experience has since taught, that the crop is not equal to the coal that is taken out lower, and when the roof and floor have attained the regularity and hardness, so necessary to ensure good coal.

At the period alluded to rail-roads were unknown amongst us, and the mode of transporting was by common wagons, over roads at all times bad, and through a country, where, from its mountainous character, the horse was able to perform but little, in comparison to what can be done on a plain and level country.

Yet, with all these difficulties the work was continued, and the price attained, (owing to the heavy expense of working) afforded but a scanty pittance to the men employed, without in any manner, reimbursing the owner of the land for the loss of the timber, exclusive of the impoverishing of his coal beds.

As far back as 1814, drifts had been run on the heads of veins, in several places, and the coal brought from them in wheelbarrows; but it was not until 1827, that the rail-road was introduced into drifts, and from that period to the present, drifts have been the universal mode. Improvements have been making from that to the present time, and it is believed they have attained that degree of perfection, which has so long been desired, and such, as to enable the miner to work on the best and cheapest plan.

The introduction of rail-roads into this county forms an important era in the history of this district, and deserves the attention of all who are engaged, or in any manner interested in mining; as by their introduction, those distant beds of coal, that a few years since were believed to be too remote to admit of being worked, but were held as a reserve for a future generation, and were supposed to be unavailing, until all those beds lying on the canal were exhausted, and which are now brought into active use, and the whole region forming a district, averaging eighteen miles in length from east to west, and in breadth from north to south four miles is traversed or intersected by rail-roads, and is rendered capable of being worked.

Previous to the erection of any of the public rail-roads, our enterprizing fellow citizen, Abraham Pott, constructed a rail-road from his mines east of Port Carbon to that place, making a half mile. This served as a model, and may be termed the beginning from which all originated.

No. 19.

Queries addressed to the committee of the Conyngham convention, by the Senate committee.

1.—What is the extent of the coal region in the counties of Northampton and Luzerne, whose natural market is by the Lehigh?

2.—What number of mines has been opened, and has it been satisfactorily ascertained that the quantity of coal on the Lehigh, (exclusive of the Mauch Chunk coal) is sufficient to justify the construction of canals or rail roads from the mines to the river?

3.—What has been the effect of the acts and operations of the Lehigh coal and navigation company upon the enterprise and exertions of the owners of these coal beds?

4.—Have the contemplated improvements, to connect the Susquehanna with the Lehigh been in your opinion prevented or retarded by these acts? If so, state fully the facts upon which that opinion is based.

5.—State generally the resources of the country bordering upon the Lehigh, and the probable effects of a free navigation of that river upon the future prosperity of the community at large.

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No. 20.

Report of the Committee of the People of Nescopeck Valley, upon the subject of the Lehigh Navigation and the Coal Trade.

To the committee of the Senate of Pennsylvania, appointed at the last session to investigate the state of the coal trade, &c.

The undersigned, a committee appointed by the citizens of the valley of the Nescopeck, at a meeting held in Conyngham, on the fourth of July last, beg leave to submit the following statement, in reply to the queries proposed to them by the Senate committee:

Before proceeding to answer the queries submitted to us, it may not be amiss to call the attention of the committee to a branch of the subject not specially alluded to, we mean the unconstitutionality of the law, under which the Lehigh coal and navigation exercise their powers and privileges.

In all governments, incorporations have hitherto been regarded with jealousy by the people, as institutions of a dangerous tendency, and likely to produce unfavourable results upon the well-being of the community where they exist.

In England it is a settled rule of law, that no incorporation can exist, except by act of parliament, the king's patent, or by prescription, which presupposes a previous grant. In this country they are entirely the creatures of legislative enactment, and consequently can exercise no power, but such as are specially granted by the act creating them. They take nothing by implication, nor does the fact of their creation give them any powers under the *common law*; and hence, no rights can vest in them, but such as the Legislature may constitutionally transfer.

In England, where the doctrine of parliamentary omnipotence is acknowledged, corporations are dissolved, whenever their existence is found to be prejudicial to the interests of the country, and we find that in the reign of Henry VIII. the monasteries were dissolved by act of parliament, upon the ground of their being injurious to the country. If then in England the question of expediency was made to bear upon this matter with such force surely in this country, where privileged orders are opposed by the spirit of our constitution, the Legislature would not hesitate for a moment, to repeal a law which in its effect is oppressive upon a large portion of the citizens of Pennsylvania, and it is not saying too much when we make the assertion, that our representatives are bound by every principle of patriotism to revoke all such grants as have been inadvertently made, and restore to the citizen those immunities of which he has been unjustly deprived.

The Lehigh coal and navigation company owes its existence, and its important powers and privileges to the acts of assembly, passed in 1818 and 1822, which acts, we believe, are probably unconstitutional, and such as the Legislature had no power to enact. Our reasons for this opinion are,

First. It is not competent for any government, (nor is such power claimed at this day by the greatest despotism in Europe) to take the property of any of its subjects and grant it to others, except for some great national purpose, and then only, by making ample compensation to the party injured.

If this proposition is true in the despotic governments of the world, for a still stronger reason, the principle must prevail in republican Pennsylvania; and it is expressed in the strongest language in the constitution of the United States, which declares "that no state shall pass any law impairing contracts," and "private property shall not be taken for *public use* without just compensation"; and yet strange as it may seem, we find the Legislature in 1818, sanctioning a contrary doctrine, and in the face of the great charter of our liberties, wresting from the citizen his private property, and transfering it to three men, who certainly had no peculiar claims upon the bounty of the government above their fellow citizens.

The Lehigh river is a *public highway*, and has been so, since its first discovery. It needed not the sanction of human laws to make it so; its claims to this character rested upon the immutable decrees of the Governor of the universe. The whole world had an interest in its waters, and those whose lands joined it, had the use of its waters, not only as a natural right, but by an express, or an implied grant from the state, which is to be found in every patent ever issued by the commonwealth. When they purchased their lands, they also purchased the water power found thereon, and had an undoubted right to the enjoyment of it, provided, the navigation of the river was not obstructed thereby, or the rights of their neighbours infringed. For this property the purchaser had paid the state a valuable consideration, and the faith of the government was pledged to pro-

tect them in the full enjoyment of their acquisitions; yet after all this, they see with surprise and indignation, a weak and improvident Legislature seize their possessions, and hand them over unceremoniously to enrich the coffers of a legalised aristocracy.

Had it been necessary for any great public benefit that White, Hauto and Hazard, should become the owners of all the water power upon the Lehigh, it would have been some excuse for such a measure. But the public interest did not require, that the constitution should be trampled upon, and the private rights of the citizen violated, in order to construct the Lehigh canal. The canal could be made without robbing one man to enrich another. But say the Lehigh company, the water power of the river was given to us, as payment for making the canal. This cannot be true; because the state gave the company the privilege of paying itself for any monies it might expend for that purpose, in the tolls upon the canal, when it should be completed. But if this assertion is true, it would only show, that the Legislature had violated another fundamental doctrine of our government and an express provision of our bill of rights which declares that "taxes shall be equal;" if however property can be thus taken without legal assessment to construct public works, the burden of the measure is thrown upon a few for the benefit of all.

Second. The whole country had a qualified property in the waters of the Lehigh, and therefore the government had no authority to obstruct its free navigation. All might freely use it and no power on earth could appropriate its advantages exclusively to itself. The Legislature could not have changed the course of its waters from the Delaware to the Susquehanna, and such an attempt would be considered as a high handed act of despotism, and a direct violation of the law of nations. Yet under the law of 1818 and 1822, the navigation of the river is effectually closed against all but the Lehigh coal and navigation company, and its consequences are more prejudicial, to the public good than the case above stated could possibly be. In that case it is probable that as many would be benefited by the change as if the river continued to flow into the Delaware, but as it now is, the natural navigation is destroyed, and the canal is made by the proscriptive policy of the company a mere appendage to their mining operations, and so far from its being a public highway as was probably intended by the Legislature, it is avowedly but a *private road* and only used for the purpose of passing the company's coal to market. We say avowedly, because we are able to prove conclusively that the company charge their present prohibitory tolls on anthracite coal for the sole purpose of monopolising the trade and excluding the second coal field from competition with their own.

Thirdly. The law of 1822 is unconstitutional, (if understood according to the company's construction of it,) because it declares that the said company may "purchase, have, hold, receive, possess, enjoy and retain to themselves and their successors, lands, tenements, hereditaments, *rents, goods, chattels* and *effects*, of whatsoeve *kind, nature*

or *quality* not exceeding in the whole ONE MILLION OF DOLLARS.

The construction given to this section of the law by the company if correct, (which we shall deny in its proper place,) would render it so palpably unjust and unequal in its operations upon the people, as would make it odious in the most despotic government in the world and in the country we trust it will meet with the steady opposition of every man who values the blessings of civil and religious liberty. By this law a privileged order is created who are completely without the operation of the laws of the land. Under this section a company of merchants and traders are organized, who are not personally responsible for their acts. With a capital of ONE MILLION they may control and monopolize the commerce of half the state. They can command the market to suit their views at all times. They cannot be indicted for their acts or punished for frauds in the most common affairs of life. The company have in fact but an ideal existence as to all moral purposes. Without a soul or any thing tangable upon which moral obligation can rest, it is emphatically above all law, and although its agents might sometimes be made responsible for their misdeeds, the company would stride like a collossus over the temple of justice, regardless alike of the laws of God, or the rights of man.

Where we would ask the committee are we to look for a constitutional provision, which gives the Legislature power to grant such privilege to a company of men who are only known by an impression of ornamented copper upon a piece of wax; and what would be said to an association of capitalists who should make an application for like powers at this day. We apprehend they would be ridiculed from the Legislative halls as men demented, or treated with that scorn which belongs only to those who would build their fortunes upon the ruins of our republican institutions.

The undersigned are not disposed to deny that the Legislature might lawfully pass any acts having for their object the *improvement of* the river Lehigh for the *use of the public*, but we deny that the act of 1818 and 1822, have in their practical application had this effect, on the contrary, they are but a shelter and protection to a few individuals in appropriating to their exclusive use and benefit the property of the public as well as the property of individuals. The river Lehigh is not now a public highway, which every citizen may use, but only a private road from the Mauch Chunk coal mines to the Delaware river. If then the Legislature have power to pass laws like those complained of, the citizens of Pennsylvania have no protection above the boors of Germany, and are at the mercy of, and subject to the caprice of a despotic government, which may at its pleasure take from the citizen his property and divide it as the spoil of an enemy among those who happen to be more in favor. You must be satisfied gentlemen, that no such power exists in Pennsylvania, and that the people when they framed the constitution, never dreamed that any such should be exerted. What then is the constitutional

pretext for taking private property for the use of corporations? There is no possible justification for such grants except that in the provision the work shall be constructed for public use. The letter and theory of the constitution unite in perfect harmony, in sustaining the great principle of doing justice to individuals and at the same time promoting the general good.

When the property of an individual is required for public benefits, the community, i. e. every individual who chooses shall have an equivalent for what he pays, the right of using the property so disposed of. Can any thing be more clear and undeniable?

In applying these principles to the present case let it not be said that every individual who chooses may use the Lehigh canal, for if the toll demanded for the use of it be more than the value of his product after it has passed over, the right is not less a mockery of all the rights of the community than such a doctrine would be of the constitution.

With the foregoing brief view of our constitutional objections we will proceed to answer your several queries, reserving the further consideration of this point to be resumed hereafter.

We propose to consider your two first queries together.—1 and 2. The coal region which must find its natural market by the Lehigh is of great extent, and may be safely set down as embracing an area of at least one hundred square miles. Its south eastern boundary is marked by the Red Shale formation at Spring mountain, and its northern and western limits are distinctly drawn by the Red Shale formation at the summit of Buck mountain. Its extent from northeast to southwest is about fifteen miles, and its breadth from southeast to northwest, from seven to eight miles. Beginning at its eastern extremity near the river Lehigh, you discover anthracite coal in great abundance, sufficient to warrant a rail road to the river. In pursuing a southwestern direction from this point, strong indications of the existence of the mineral present themselves until you reach the Beaver meadow mines, which we believe you have examined for yourselves and it is therefore unnecessary for us to speak of its great extent. Coal is also believed to exist in the immediate neighborhood of these mines, and the formation is continued in the same direction until you reach the lands of Jacob Alter, Esq. who has opened a mine, and his experiments show conclusively the existence of an immense body of coal at this place, which is unquestionably connected with the Beaver Meadow formation. This is probably the south corner of this extensive region unless it connect itself with the Schuylkill and Mahanoy deposites which is not improbable.

From Alter's mines, the same indications continue to present themselves in a westerly direction, until you reach the Black creek of the Nescopeck. Here, at the south base of Buck mountain a mine was opened some years since by Redmond Conyngham, Esq., who sent a few tons to the city of New York, with a view to excite the attention of that city to the feasability of a plan to supply the inhabitants with fuel from this region. The subsequent developement at Car-

bondale, and the proscriptive policy of the Lehigh company cut off all prospect from that quarter, and the mine has not since been worked. From Conyngham's bed you pursue the range in a northeasterly direction, until you reach Turnbull's mill, a short distance from Mr. Casper Horn's on the Berwick turnpike. This mine has been worked several years, and the people of Nescopeck valley have derived their principal supply from thence. From our own personal knowledge of this mine, we have no hesitation in saying, that there is a sufficient quantity of coal to warrant the construction of a rail-road to the Lehigh, and if the navigation was opened upon equitable principles, stock could be obtained for that purpose.

About half a mile north east of this point, Mr. Casper Horn has recently made an opening and found coal, and is now mining with success; it is of an excellent quality and in great abundance. About two miles distant in the same direction, near Hazel creek, another opening has been lately made with like success, and from this point to the place of beginning, strong evidences of coal are observable.

You will observe gentlemen, that the above description embraces only the outer portion of the region, and within these lines we have not a doubt, but that a closely connected formation exists covering the whole area. It is worthy of remark that the region is distinctly bounded on the northwest and southeast by the red shale formation, and not a vestige of it is to be found in the intermediate space, and when we add the fact, that every attempt to discover coal in this region has proved successful, we have the fullest assurance there is coal enough in this region to warrant the construction of rail-roads and canals to an indefinite extent.

The three following queries will next claim our attention: In answering these queries, it will be necessary to enquire what have been these acts on the part of the company; and in order to give you a full understanding of the subject, we shall be under the necessity of taking a brief view of the history of this company from its first organization to the present time.

In the year 1818, the general assembly passed an act, entitled, "An act to improve the navigation of the river Lehigh." By this act Messrs. White, Hauto, and Hazard, under certain regulations were authorized to make certain improvements in the navigation of the river, and as a compensation for their expenditures, they were authorized to charge tolls, &c. By this act they were not made a corporation, they had not even perpetual succession, or a common seal, but were simply partners in trade by the terms of their association. They were individually responsible for the obligations of the firm. Subsequent to this grant, this *Firm*, mortgaged or pledged all their privileges in the navigation to a certain association in Philadelphia, called the Lehigh navigation company, and had also pledged the real estate of the firm to another association in that city, called the Lehigh company. These two companies amalgamated, and under an arrangement with White, Hauto, and Hazard, an application was made to the Legislature for an act of incorporation, which was passed in 1822.

By this act all the privileges, which had been previously granted to White, Hauto, and Hazard were vested in these two associations, under their corporate name, viz: "The Lehigh coal and navigation company", and at the same time the property pledged as aforesaid was also vested in the said company. The senate committee will observe that this company took nothing in relation to the navigation, but what had been before granted to White, Hauto, and Hazard, by the act of 1818. They acquired nothing in addition to the privileges of White, Hauto, and Hazard, except the stockholders were not individually responsible for the acts of the company, and such corporate powers as were specially granted them by the act aforesaid. By a careful examination of this act, it will be seen that the sole object of the Legislature was to "improve the navigation of the river Lehigh", and in the language of the preamble to the law, it "was the manifest interest of the *commonwealth* to promote by all *proper means* on object so important to the state." This then was the cause, which moved the Legislature to grant this company certain privileges, one of which was, to assess tolls upon the navigation, as a means whereby they might remunerate themselves for monies expended in the construction of their canal, and for this purpose alone was this privilege granted; and as to the company's right to make a canal, the Legislature only made them the mere trustees of the state in regard to its use. It could never have been the design of the general assembly to give this company the sole and exclusive use of the canal, but on the contrary the whole act proves beyond controversy, that it was intended as a public highway for all the world, and to this end alone were all the provisions of the act directed.

If this be the true construction of this law, we would respectfully ask the honorable committee, how the company can be justified in their high-handed measure, hitherto pursued in relation to the tolls upon the canal, as we have before remarked. The canal is closed against all but the Lehigh company—the tolls are charged not for revenue purposes, but as the company have often declared, for the purpose of preventing any coal going to market but their own—is not this a perversion of the design of the Legislature? Is the object of the law attained? Has not the consideration which induced the contract between the state and company completely failed? In vain has the property of individuals been wrested from them; in vain has the water of one of the finest streams of Pennsylvania been given away, if this company can thus violate every principle, which govern contracts between man and man; and in vain has the blood of our fathers been shed if such a trampling upon the rights of a community can be tolerated in Pennsylvania.

Independent of the high tolls charged on anthracite coal, we would direct the committee to the examination of certain other acts of the company, which we believe are wholly unauthorized by law, among which, may be enumerated, the high toll on lumber, the toll on empty boats, their building houses to rent, buying and selling goods, and

dealing generally as merchants; charging toll on passengers, *per capita*, &c. &c.

That it is unlawful to charge toll on empty boats, we need only refer to the law itself, and that they have done so is proved by their table of tolls and the *confession* of the acting manager in his pamphlet addressed to the Senate committee last winter, in which he attempts to justify the measure by quoting the Schuylkill law, and saying, it is "only neighbor like." The company will probably justify their acts in merchandising and building houses under the first section of the act of 1828, before referred to. But we contend that this section must have reference to the subject matter of the law, and it was never intended by the Legislature to make the company, merchants or landlords, any further than was necessary to enable it to construct the canal. They could not have intended to permit to build up large towns and thereby controul the community by means of their relation as landlord and tenants, and yet under this very section we find this company selling goods to the amount of thousands per annum, monopolizing the trade of the country to the total exclusion of individual traders, and we have proofs that the company have prohibited in their town of Mauch Chunk, the establishment of stores and all other branches of business in which they were themselves engaged; and we are informed that upon this subject they were so cautious as to introduce restrictive clauses in the leases to their tenents whereby they were restrained from business without the special license of the company first had and obtained.

We beg leave to state another fact connected with this branch of the subject, in which we apprehend the Commonwealth are largely interested. The company at one time (about one year ago,) prohibited their boats from taking in any back loading from Philadelphia to Easton, though they were permitted to do so at any point on their own canal, and one member of this committee found the truth of the above assertion in the great inconvenience he suffered by the refusal of the company to permit any boatman to take in a quantity of plaister for him which he had purchased in Philadelphia for the Nescopeck valley market. We will not say that the measure was dictated by a desire to keep the revenue of the Delaware division as low as possible or because they dealt in the article at their store in Mauch Chunk, but will leave it for your own investigation. Whether the prohibition is still continued we are not informed. If these facts are true, and that they are so, we pledge ourselves to prove, it may be asked what effect has this system thus pursued by the company upon the public generally. We answer,

First.—The contemplated improvements between the two rivers have hitherto been effectually prevented, because no man would be foolish enough to invest money in canal or rail road stock while a company governed by such a system held in their possession and under their sole control the outlet of the country to market. The owners of coal beds, could not work their mines because the onerous tolls would enhance the price of the commodity in market so that it

could not compete with the coal from the Schuylkill or the company's coal from the Mauch Chunk mines. We need only to refer you to the Schuylkill to show what this country might have been had the company pursued a liberal policy and have made their canal a public highway according to the spirit and meaning of their contract with the Commonwealth. Another evil resulting to the state and especially to the city of Philadelphia by reason of this policy is this: It is a fact within the knowledge of this committee that the merchants of Wilkesbarre, have, and are deserting the Philadelphia market and have actually made large purchases in the city of New York the present fall, because as they say they can send their goods cheaper and with much less embarresment by the Hudson and Delaware canal and Carbondale, than by the Delaware and Mauch Chunk canal. Is the state to look on quietly and see her own canal become worthless, the trade departing from her metropolis on account of this withering policy? We trust not. We hope that there is sufficient intelligence in Pennsylvania to arrest the evil; and how shall it be done? Permit us to suggest a remedy.

We stated in the outset that the law of 1822 and 1818 was unconstitutional and we firmly believe so; our reasons are before you, and we trust they will be duly considered. We also believe that the acts of the company amount to a forfeiture of their chartered powers and will bring them specially within the operation of the 2 th section of the act of 1818. We say then here is a remedy ample and full, let these acts be repealed, either for the "misuse and abuse" or on account of their unconstitutionality. And let a modified charter be granted in which the rights of all concerned shall be strictly guarded. If however, the Legislature should deem it inexpedient to resort to such measures, we have another remedy which we think could meet with no reasonable objection.

It certainly would not be unreasonable that the Lehigh company should pay the same toll on the Delaware division which they charge others on their canal, it would only be measuring to them again such mete as they measure unto others. Therefore if the tolls upon the Delaware were fixed at the same rate as upon the Lehigh, it would be putting it upon the company to assess their own tolls on both canals, and if their rates were low, so would be the Delaware, if high "*the sin would lay at their own door*." Let it not be said that the company would take the bed of the river in that case; they can not do it, and beside the state has the controul of the outlet at Easton and might use it effectually in the assessment of such tolls as would make it a matter of choice to pursue the canal to Bristol.

And now gentlemen permit us to ask your attention to our answer to your 5th query.—Independent of the inexhaustible coal mines, the pine forest bordering upon the Lehigh might be made the source of wealth which are now of no earthly benefit. A free navigation of the Lehigh would enable the owners of these wilds, to turn them into fruitful fields, thousand of acres would be reclaimed from its present unproductive state, and where now is only heard the howl of the wolf

and the screach of the panther, busy towns, and cultivated farms would soon be seen to spring up, sustaining an active and industrious population. By a free navigation of the Lehigh, the rapid settlement of the whole country from the Schuylkill county line to the Easton and Wilkesbarre turnpike would be ensured, the trade of all northern Pennsylvania would be secured to the city of Philadelphia. The Nescopeck canal would be made, thereby opening a direct water communication to western New York, Ohio and Michigan. A home market for the surplus production of the Susquehanna valley would be found at the distance of twenty miles, in the Buck Mountain and Beaver Meadow coal region. These are a few of the benefits to be derived from a free navigation of the river Lehigh, and if some measures are not taken to remove the evil complained of, it needs not the spirit of prophecy to foretel that in a few short years, Philadelphia will find herself deprived of the trade of all northern Pennsylvania; she will find herself at the mercy of an incorporated company for her supply of fuel, the price of which may be raised upon her citizens at pleasure. This country so rich in mineral wealth will continue to be a wilderness, the state canal from Easton to Bristol may or may not derive a small revenue from the Mauch Chunk monopoly, and finaly if this incubus is not dislodged from its present position we may anticipate at no distant day that the political influence it will be able to exercise by means of its wealth and situation may prove destructive to our liberties.

We ask then from the Legislature a candid and thorough investigation of this subject. We ask it as a matter of right—we ask it of the Legislature as the guardian of our rights and as the representatives of a free people.

With great respect, we are gentlemen,
Your very humble servants,
J. A. GORDON,
N. BEACH,
J. DRUMHELLER,
M. S. BRUNDAGE,
A. B. WILSON.

Conyngham, November 25, 1833.

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No. 21.

Extracts from the Answers of the Lehigh Coal and Navigation Company.

The Lehigh coal and navigation company, having given as full answers as was in their power to the queries of the committee of Senate, now beg leave to add, that they understand the opponents of the company from the Conynham convention, propose to make their replies to the queries of the Senate committee, the vehicle to bear

their oft refuted charges against the company, to the new members of the Legislature. The company regret, that their opponents should take this unfair course after avoiding the meeting, which they themselves requested of your committee, for the special purpose of "hearing charges against the Lehigh company". Had they kept the appointment, it would have been easy for the company to have refuted all their charges, as at Mauch Chunk they had all the necessary documents for the purpose. They must now advert, by anticipation, to such charges as they suppose will be preferred against them, that the "bane and antidote" may go together.

One serious charge was made that the company refused to permit Jacob Drumheller to send his plaister by their boats. He was told, in reply to his application, that the company had *no authority* over the boats for *back loads*, that he must *make his bargain with the boatmen* for the freight, that the company could not admit plaister or merchandize to be sent *on the company's wharf in Philadelphia*, to be loaded into boats, as it was found to interfere too much with their coal business, advised him to apply for the use of *E. Haine's* (the adjoining) *wharf which he obtained, and actually sent his merchandize* from *there in the company's boats.* We refer to our "printed regulations for boating coal" which you will receive herewith to show, that the company could not refuse to take back freight as that is specially provided for in the first article, which says "the boats, during the contract are to be confined exclusively to the business of the company *except for back freights*," and by the third article of *the contract* the *back freight* is not to interrupt the regular trips of the boats.

The company have been accused of monopolizing, and not permitting any person to keep store at Mauch Chunk, of building houses to rent, of buying and selling goods as merchants, &c. The facts are these: Previous to the company making their establishment at Mauch Chunk, a number of abortive attempts had been made to improve the navigation of the Lehigh, under various laws of the commonwealth. The undertaking of the company was expected to share the same fate, and even after the Lehigh navigation was completed, the Delaware canal was looked upon as a failure. Under these circumstances, nobody would purchase lots in the wilderness, as the town of Mauch Chunk then was; the hands employed by the company must have houses to live in, and there was no alternative, but for the company to build them and make the house a part of the wages of the men at a stipulated price or rent. So with the store, which it became necessary for the company to establish, in order that the hands might be supplied with necessary articles at fair prices, without being subjected to the expense of going from four to six miles to the stores in the country. But, no obligation was ever imposed upon the hands to purchase at the company's store. In the same manner the company were obliged to build shops and furnish the tools, necessary for the manufacture of every thing required by their business, and employ workmen by the month, or send eighty miles to Philadelphia for every thing they wanted. But, upon the Delaware canal being prov-

ed to form with the Lehigh canal a practicable connection between Mauch Chunk and tide, the situation of that place became entirely changed; there was then no difficulty in finding purchasers for lots, and houses, stores and taverns, besides various manufactories have been established there by individuals on lots, purchased by them free from all restrictions. The Mauch Chunk newspapers, which you will receive herewith will confirm this representation, by the advertisement of town lots for sale in Mauch Chunk, and the advertisements of the various storekeepers, mechanics, tavernkeepers, &c. located there since this change. The company, by being sourrounded by civilization, were enabled to relinquish all the various operations, which they were obliged in the wilderness state to carry on, and now have every thing done on contract by individuals as in other towns.

The Mauch Chunk newspapers will also give a list of tolls established on the Lehigh, which on the average will be found as low, or perhaps lower than those of any other canal, made by an incorporated company. This toll list will conclusively show that Philadelphia is not loosing the trade of the Wyoming valley in consequence of "exorbitant tolls," as has been charged against the company, though it would have been nearer the truth had that result been placed to account of hauling nearly *double the distance*, over a rough mountainous turnpike from the *Lehigh to Wilkesbarre*, that is travelled on a *descending* road from *Carbondale to the same point.*

But the main difficulty is the "enormous toll" as our opponents style it, on coal. The company have no doubt charged a higher rate on this article than has usually been charged for the same distance on other canals, but it will be recollected, that coal is the *only* article to be calculated upon for revenue on the Lehigh, whereas, other canals are favored with all the different kinds of agricultural and manufactured products in *addition* to coal.

The tolls on coal, however, were always fixed so low, that coal could be taken to market by the Lehigh as low as by any other route, and at a less rate of toll than was actually paid by the company themselves on the coal which they sent down, in the amount of interest on the cost of the navigation. To show that coal could be taken to Philadelphia by the Lehigh to a handsome profit, even when the toll was twenty-nine cents, and four mills *higher than it is at present*, we beg leave to refer you to Hazard's register for April 1828, bottom of page 249, for the estimate of the cost of coal, given by the president and managers of the Beaver meadow rail-road and coal company to their respective stockholders, and *this evidence* cannot be suspected of giving a result too favorable to the Lehigh company. The result is that by their own statement, coal can be taken from the Beaver meadows to Philadelphia for three dollars and thirty cents, including the toll on the Lehigh, and thirty cents for contingencies, while at that time the price of coal in Philadelphia was from five dollars to six dollars and fifty cents per ton. Here then, is a complete refutation of the charges so often made, "that the Lehigh is not a public highway, because the tolls on it amount to more than the value of the articles

when arrived at market," and "that the tolls are charged not for revenue, but, as the company have declared" (so our opponents say, but which we deny) "for the purpose of preventing all coal going to market but their own."

The fact is, the Lehigh toll on coal is not half as much per ton per mile as is charged on the Delaware and Chesapeak canal, and not half what the act of incorporation of the Lehigh company authorizes to be charged. The toll on lumber is lower than on the state canals.

Charging toll on "empty boats" has also been considered a violation of our charter. By refering to the seventh section of the "act to improve the navigation of the river Lehigh" passed 20th March 1818, it will be seen that the *boat* is to be *marked* with the tonnage she "is *capable of carrying*" and shall be permitted to pass on the said navigation for the price to which *the number of tons so marked on her* shall amount agreeably to the rates per ton hereinafter established." Now here is full authority for charging *full toll*, whether the boat is loaded or empty, but no advantage has ever been taken of this, as will be seen by the toll list. No toll is charged on the boat, when she has a full cargo on the Lehigh, though on the Pennsylvania canal the same toll is charged *on the boat*, whether loaded or empty.

There is no charge of toll on *passengers* "per capita" nor in any other way. The toll is on *passenger boats*, and within their tonnage. The charter of the Lehigh coal and navigation company has been said to be unconstitutional, and the Legislature has been asked to repeal it on that account. If this charter be unconstitutional, every other charter to turnpike companies, navigation companies, rail-road companies, banks, &c. are precisely in the same predicament, and must share the same fate. The Lehigh coal and navigation company, however, believe their charter to be perfectly consistent with the constitution, but they do with all deference submit, that the courts of law are the proper tribunals for the determination of this question. All these and other charges against the company were prosecuted with their fullest force before the committee of the Senate, to whom the subject was referred, for the whole of the last session, and at its close the chairman of that committee now deceased, as you will all recollect, declared upon the floor of the Senate, that no proof had been adduced that the company had in any way exceeded the privileges granted them by their charter.

NO. 22.

OFFICE OF THE DELAWARE AND HUDSON CANAL CO.

Carbondale, January 2d, 1834.

To S. J. Packer Esq. Chairman of the Committee appointed by the Senate of Pennsylvania on the subject of the Coal trade.

Sir—The printed queries submitted by the committee appear to have relation almost exclusively to the Schuylkill coal region, in re-

ference to which it is presumed they were framed. While it is the desire of the Delaware and Hudson canal company through its officers and agents, to aid and facilitate the labors of the committee, by furnishing to it all the information that the operations and experience of this company will permit, it is supposed that it would be inexpedient and improper to present answers to such queries as are not specially directed to them, or have no relation to the locality and business of the company. Of this description we suppose the 1st, 2d, 3d, 5th, 7th, 9th, 12th and 13th printed queries to be.

In answer to the 4th inquiry we have no hesitation in saying that the coal business could not have been commenced to any good purpose, nor could it now be pursued with effect in the Lackawanna valley except through the medium of an incorporated company; very expensive works beyond the power of individual enterprise and capital, had to be constructed before a market for the coal could be reached, and as yet the resources and population of the Lackawanna coal region, are inadequate to the employment of those works.

6th.—We are not aware from our experience, that "a population or community, growing up under an incorporated company differs from that created by individual operators." It is to be remarked, however, that this company commenced its operations in a wilderness and in the prosecution of its business has acted upon the principle that the prosperity and advancement of the company and that of the adjacent and surrounding country, was one and indivisable. Hence its aim has been to facilitate by every means in its power, the advancement of population, and the expansion of agricultural, manufacturing, mechanical and mercantile pursuits, within the sphere of its influence.

8th.—We have no experience or *data* on this head, except what is derived from our own operations, and in answer to the 4th query, we have already stated that here the business could not be pursued with any effect by individuals; of course the question of comparative economy does not arise.

10th.—The consumption of coal is unquestionably increased by having a constant supply in market, as that produces low and uniform prices. The operations of this company in the coal business commenced in the fall of 1829. The quantity of coal sent to market by it in each year has been as follows, to wit:

In 1829, 7,000 tons.—1830, 42,000 tons.—1831, 54,000 tons.—1832, 84,500 tons.—1833, 111,777 tons.

11th.—We have no means of ascertaining the amount of capital invested by individuals in the coal business and improvements connected therewith. But it is believed, that the capital thus invested by companies and individuals in Pennsylvania, may be safely taken at about twenty millions of dollars.

In reply to the inquiries specially addressed to this company we have to say that the extent of canal and rail road, made by it is one hundred and twenty-three miles, to wit: Canal one hundred and seven miles, and rail road sixteen miles, at a cost of two millions three

hundred and three thousand five hundred and ninety nine dollars and fifty three cents.

The locks of the canal are seventy-five feet long and nine feet wide; boats carry thirty two tons. The number of inclined planes on the rail road are eight—five of them ascending planes worked by stationary steam engines, and three of them descending planes acting by gravity.

It has already been stated that the operations of this company commenced in a wilderness. Their improvements were undertaken in 1825 and completed in the fall of 1829. A few facts will demonstrate their effects upon the general prosperity of the country, and their consequent importance to the public. In 1828 there was but one building on what is now the site of Carbondale; nor was there any road leading to it, save one constructed by the company. It now contains a population of two thousand three hundred souls, occupying good buildings, and there are turnpike roads passing through it, on which daily stages are running. It is one of the best cash markets in Pennsylvania for every agricultural product, and in addition to the coal trade, a large amount of lumber business is done here, upwards of three millions of feet of lumber passed over the road last year and it is presumed that the quantity will reach five millions this year. It has already reached four millions of feet most of which passes by canal to the Delaware river, and by it to the city of Philadelphia. Honesdale was also a wilderness in 1828. It now contains a population of 1500 persons, and is daily increasing. This rapid advancement is marked by corresponding improvements in the surrounding country, which finds an abundant market on the line of the works; land which might before the construction of these works have been purchased for two dollars per acre cannot now be had for ten. The number of miners and laborers in the employment of the company at Carbondale is four hundred. The number of hands employed on the rail road, in the transportation of coal, and in its superintendance and repair is one hundred and eighty. The number of horses employed in transportation on the road is eighty six. On the line of the canal including lock tenders there are two hundred and thirty persons in the employment of the company. To these may be added at Honesdale and Rondout, fifty engaged in the labor, &c. incident to shipping coal down the canal and coastwise, making a total of nine hundred and sixty persons in the immediate employment of the company and depending for subsistence on it. To these however may very properly be added the crews and horses engaged in running three hundred coal boats for the company, being two men, a boy and horse to each boat, so that the total number of persons and horses finding employment and subsistence in the company's business is eighteen hundred and sixty men and boys, and three hundred and eighty six horses. During the year 1832 this company loaded at Rondout (the outlet of the canal) upwards of nine hundred vessels carrying altogether rising eighty thousand tons of coal, to various places on the North River, the city of New York and eastern ports. Up to the 1st September of

the current year, it had loaded at the same place six hundred and twenty nine vessels, fifty of which averaged three hundred and twenty tons each ; of subsequent shipments we have no accounts at this place. Anthracite coal is used to drive the stationary steam engines of the company on its rail road; it is also used in two steam boats owned by the company and employed by them in towing coal boats and barges on the waters of the North river. It is preferred to wood for those purposes, both on the score of economy and convenience. The saving as compared with wood is estimated at 33⅓ to 50 per cent.

The annual increase of the company's business has already been stated. Its operations are limited to the capacity of the rail road over which however it contemplates sending during the year 1834, one hundred and fifty thousand tons of coal, which can be done with less effort, than the business of the current year has required.

In fixing the rates of toll on the rail road, the article of coal was left open to be adjusted with any one who might choose to have that article transported on the road. It must be obvious to the committee, that on a road of this construction, the rate would necessarily depend very much on the quantity that any person might desire to carry over the road and the arrangements that he would make for starting at regular periods and receiving it at Honesdale, so as to avoid interruption and embarrassment in the daily operations of the road, which must be conducted with systematic precision. On the canal the toll on coal is at present fixed at one and a half cent per ton, per mile. But the company would not hesitate to fix a lower rate on the article, if any individual or company should think proper to construct a rail road forming an additional communication between the canal and the coal field.

Very respectfully sir, your most obedient servant,

JOHN WURTS, Pres't.

No. 23.

SENATE CHAMBER, Harrisburg, February 11, 1834.

DEAR SIR—Understanding you are preparing a report, relative to the coal trade, and the importance of the same to the interests of Pennsylvania, I beg leave to mention a fact, as it regards the bituminous coal of the west branch of the Susquehanna.

My father, Sam'l. Boyd, of Lancaster, Pennsylvania, at an early day, took up and patented a small tract of land on the west branch of Susquehanna, about three miles above the town of Clearfield, on the opposite side of the river, which is now the county town of Clearfield county, at that time known by the Indian name of Chincleclamoose. This tract of land, lying on the river, rose on the margin of the stream, into a hill of some magnitude. My father, in surveying lands in this neighbourhood, perceived the indications of coal, which induced him to lay his warrant upon this tract. Many years after-

wards, in the autumn of 1803, I made a journey to that part of the country, and found from inspection, that coal was abundant in that vicinity, and that some had been taken out by blacksmiths for manufacturing purposes. As I wished to try the practicability of bringing this mineral to market, from what was then a wilderness country, I made an arrangement with a settler in the neighbourhood to build an ark for the purpose of removing the same, with a cargo of coal down the Susquehanna.

In March, 1804, I sent a person accustomed to mining to open the vein of coal, and to load the ark, which was accomplished, and early in the month of April the same year, the ark, with the first cargo of bituminous coal passed safely the Conewago falls, and landed her coal at Columbia, Lancaster county. This was the first cargo of the kind that ever floated down the west branch to this point of landing, and it was a matter of great surprise to the inhabitants of Lancaster county, to see an article, with which they were wholly unacquainted brought to their own doors. The blacksmiths soon found the value of this mineral, and after trying it in making iron, they purchased this new article freely. The coal was sold at thirty-one cents per bushel at Columbia, and remunerated me for the expense of building the ark, and navigating the same on this first stone coal expedition. If you think this information worthy of inserting in your report, you are at liberty to make use of it.

Very respectfully, yours &c.

WM. BOYD.

S. J. Packer.

No. 21.

Extracts from the Report of the President and Managers of the Philipsburg and Juniata Railroad Company to the Stockholders.

The uses, for which bituminous coal is especially adapted are for domestic purposes, the arts generally, and more particularly for air furnaces, steam engines, and smiths work ; for the production of hydrogen gas, and in the form of coke for the smelting of ores. The first of these, though the last in importance, where manufactories are extensively carried on, will probably on the first establishment of the road, constitute a large proportion of the demand. As one ton of coal is fully equal in its effects to three cords of wood,* whilst it is a much safer and less troublesome kind of fuel, it is very obvious, that, wherever firewood costs more than one dollar and fifty cents per cord, and coal can be obtained for five dollars per ton, the latter will be preferred for domestic purposes.

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*A recent experiment made on board the king William steam packet from Pictou to England, exhibits the proportion *as exceeding* three cords of wood to one ton of bituminous coal, and the Ithica and Oswego rail-road company rate four cords to the ton.

The decided advantages, in the use of bituminous coal, for the generation of steam, may be comprised under two heads, safety and economy. To establish a claim to the first, it may be necessary to explain the cause, to which practical men attribute nine-tenths of the accidents, which have happened of late years to steam boats on the waters of the United States. A reference to most of those cases will show, that they have generally occurred immediately after the boat has left some landing place: The practice on arriving at the landing is, (owing to the uncontrolable nature of a wood fire) to let off steam, which is often done to such an extent, (particularly on the western waters, where the boilers used are very small, with flues usually passing through them, still further reducing their capacity) that too little water remains in the boilers, to prevent the inordinate action of fire upon them. In this situation, they become nearly red hot, and when the boat proceeds again on her passage, with the necessity of immediately replenishing them, the forcing pump is set in operation, when the cold water injected, coming in contact with the red hot iron, the expansion is so terrific, that it becomes a matter of wonder, not that so *many*, but so *few* accidents have occurred. Now with bituminous coal, no danger, whatever, can be apprehended from this source. Five minutes before the arrival of the boat at the landing place, the fireman opens the doors of the furnace, and throws on the fire a quantity of small coal (such only ought to be used for steam engines generally) without stirring the fire. The cold air rushing between the now black mass and the boilers, will prevent accession of heat, and during the five minutes to elapse before the boat stops, the principal part of the steam previously generated, will have been used, and none whatever need be let off: When desirable to proceed, it is only necessary to stir the fire, close the doors, and the boat immediately pursues her way with well filled boilers, and without the slightest danger. As a proof of the correctness of this reasoning, it may be asked, to what other cause is to be attributed the safety of the English steamboats, which use *bituminous coal* exclusively, and on board of which, we never hear of the explosion of boilers, although accidents occasioned by carelessness and running foul of each other, do sometimes occur. As, however, one instance of an engine conducted on this plain at home, is worth hundreds at a distance, the board are happy to have it in their power to convey an invitation, on the part of the proprietor of the screw factory at this place, to all practical men, to visit and examine personally the mode practised in the management of the steam engine, at which little or no steam ever escapes whilst the hands are at dinner, and during the night, and at which the fire is never suffered to be extinguished, except when it becomes necessary for the purpose of cleaning the boilers.

The economy in the use of bituminous coal for steamboats will depend much upon the situation where it may be used; but let us suppose a case on the Hudson river, which is as remote from the mines, as there is any probability of this coal being transported. The large boats on the Hudson consume during a trip from New York to Alba-

ny, which occupies from ten to twelve hours from forty to forty-five cords (short lengths of pine wood, at an average of four dollars per cord, equal to thirty-five cords, full measure of one hundred and twenty-eight cubic feet, at five dollars per cord, one hundred and seventy-five dollars. With well constructed fireplaces, eleven chaldrons of coal, would accomplish the same result, which at nine dollars per chaldron, at which it is believed it can be afforded, is ninety-nine dollars, or a saving of nearly one-half, besides occupying only one-fifth of the space, and thereby allowing so much more room for passengers, and diminishing in like ratio the cost of hauling, &c. With such decided advantages in its favour for the generation of steam, it is only necessary for the facts to be promulgated, and the article furnished in sufficient quantity, to insure an immediate demand for the supply of steam engines of all descriptions.

For the production of hydrogen gas, for lighting towns, factories and houses, large quantities of bituminous coal (as the cheapest material from which it can be obtained) are used in England. In London, it is stated that, up to 1830, one thousand miles of pipes, for lighting the streets, had been laid, and that the consumption of coal, for this purpose, was thirty-eight thousand chaldrons in that year. In Liverpool and Manchester, it is believed, the consumption is much greater, in proportion to the population; as, in the former place, gas is more in use for lighting private houses, into which it is introduced by gas companies, who provide the apparatus, receiving their remuneration according to the quantity of gas actually used, which is determined by a guage connected with the reservoir or gasometer; and in the latter place, the ordinary consumption is still further increased, by the enormous supplies requisite for the factories. But the use of gas is not confined to large towns. There are few places of the size of Burlington, that are not lighted by it; and a member of this board remembers to have even seen it employed for lighting a solitary turnpike gate, between Stockport and Macclesfield. The mode of extracting the gas from bituminous coal, is by a very simple process of distillation, in the course of which, tar and ammoniacal liquor are also disengaged, the residuum, in the retort, being coke. The following estimate of the product of one chaldron of coal, subjected to this process, is taken from page 186 of "Cooper on Gas lights," to which the board refer, for a mass of interesting information on the subject; comprising the evidence of many scientific and practical men, taken before a committee of the House of Commons.

"One chaldron of coal, from twenty-five to twenty-eight cwt. or thirty-six bushels, produces from 1¼ to 1½ chaldrons of coke—from 150 to 180 lbs. tar, at 10 lbs. the gallon—from 220 to 240 lbs. or 22 to 24 gallons of ammoniacal liquor, and about 10,500 cubical feet of gas."

No. 25.

Estimate of the cost of delivering at Middletown and Philadelphia, bituminous coal of the first quality, from the Karthaus and other mines on the West Branch, Clearfield county.

Bituminous coal of the first quality, can be delivered on the river bank, from the mines, in any quantity required, at three cents the bushel, calculating thirty bushels to make a ton, which is *ninety cents per ton*,	$ 40 50
The cost of an ark at the coal, is	50 00
The expense incurred in running by the river from the mines to Middletown, is	85 00
	175 50
From this deduct the price of the empty ark, as generally sold in Middletown,	25 00
Cost of 45 tons at Middletown, by the river, from Clearfield county,	150 50
First cost per ton, at Middletown, is	$ 3 34
First cost per bushel, at Middletown, is	$\frac{11}{60}$

Owing to the dangerous navigation of the river above Dunsburg, forty five tons is as great a load as can be brought down in safety; and the dams erected in the Susquehanna also prevent those engaged in the trade from running a heavy loaded ark, as they will not run the dams safe; for these reasons, there can be but a very limited supply obtained; nearly all that comes down is consumed in the country bordering on the Susquehanna, from Northumberland to Columbia; a very small quantity reaches Philadelphia, where it sells readily at twenty-five cents the bushel. There is generally brought down in this manner, about ten thousand tons per year.

A statement of the cost of delivering coal from the same mines by the river to the head of the West Branch canal at Dunnstown, thence by the Pennsylvania canal to Middletown, provided that the rocks were taken out of the channel of the river so as to admit of loading sixty tons in place of forty five tons as is calculated in statement by the river:

First cost of sixty tons at the mines, ninety cents per ton,	$54 00
Price of an ark at the mines,	50 00
Cost of running in the river from the mouth of Anderson's creek to the canal,	30 00
Toll on the Pennsylvania canal from Dunstown to Middletown, 130 miles, half a cent per ton per mile,	39 00
Expense of bringing the ark to Middletown by the canal	54 00
	$217 00
Deduct the price of empty ark at Middletown,	25 00
Cost of sixty tons at Middletown,	$192 00

Cost per ton at Middletown, three dollars and twelve cents.
do. bushel, do. ten cents and four tenths.

Provided the natural channel of the river was improved so as to admit sixty tons to be brought in safety to the head of the Pennsylvania canal, say at an expense of ten thousand dollars judiciously expended on the most difficult parts of the river, would enable those engaged in the trade to bring down a large quantity, say fifty thousand tons per year and the quantity would be increased every year. The tolls arising to the state on fifty thousand tons, carried on the Pennsylvania canal at Dunnsburg to Middletown alone, would be, at the present rates of toll, one half cent per ton per mile, thirty two thousand five hundred and sixty dollars.

The toll and freight from Middletown to Philadelphia by the canal and Columbia rail road, per ton one dollar seventy eight cents.
Whole cost at Phialdelphia, per ton, five dollars.

Bituminous coal, of the same quality, as that of the above description, which by competent judges and manufacturers, by testimonials certified by them, has been pronounced to be "equal or superior to any coal, (they had used,) either American or English," sells readily at present at thirty cents per bushel in Philadelphia, or per ton $9 00

First cost at Middletown, by canal and rail road,	$3 12	
Freight and tolls from Middletown to Philadelphia by the Union canal &c., or the Pennsylvania canal to Columbia, and thence by rail road, say	1 83	
		5 00
Difference in first cost at Philadelphia on the ton,		$4 00

N. B. One ton of bituminous coal is at least equal to two and a half cords of wood, for the use of steam machinery. The saving that therefore would accrue to the city of Philadelphia, by the use of bituminous "Karthaus coal," instead of wood, would be as follows, viz:

Say price of wood in the said city five dollars per cord is for two and a half cords,	$12 50
First cost of coal in do. as per within statement,	5 00
Clear saving to the city on 50,000 tons at $7 50 is	$375,000 00
Or on fifty thousand tons of coal between nine dollars the present price, or	$450,000 00
And five dollars the price it would cost per within estimate,	250,000 00
Or at four dollars less first cost,	$200,000 00

PETER A. KARTHAUS.

Harrisburg, February 10th, 1854.

TESTIMONIALS.

We whose names are hereunto subscribed, have used the bituminous coal from the West branch of the Susquehanna, called Karthaus Coal, and take great pleasure in recommending them to manufactu-

rers and smiths, and for steam boats. We have found them equal or superior to any coal we have ever used, either American or English.

MERRICK & AGNEW, 340 Vine Street.
HENRY DERINGER, 370 N. Front St.
JOHN MAYWEG, 133 Dilwyn Steret.
JONAS GLEASON, 259 High Street.
Philadelphia.

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No. 26.

Estimate of Mr. *Philips*, President of the Philipsburg Rail Road Company.

Actual cost of thirty tons of coal delivered at Philadelphia per rail road and Union and Schuylkill canals.

Digging and delivering into rail road cars, thirty tons of coal at one and a half cents per bushel, thirty two bushels to the ton, or forty eight cents per ton,	$ 14 40	
Toll on rail road as fixed by act of assembly, two cents per ton per mile, twenty eight miles,	16 80	
Cost of transportation on do. at the rate at which, agreeably to the recommendation of the engineer it is intended to apply to the Legislature to constitute the company public carriers, same as toll,	16 80	
Loading into boats ten cents per ton,	3 00	
		$ 51 00

TOLLS ON CANALS.

On the Pennsylvania canal from rail road to Middletown one hundred and twenty four miles at one half cent per ton, per mile, as per printed list,	18 60	
On Union canal eighty miles at three fourth cents per ton per mile as per printed list,	18 00	
On Schuykill canal sixty miles at one and a half cents per lock, on thirty two locks charged for, or forty eight cents per ton,	14 40	
Charge on return boat, if empty, on Schuylkill canal,	1 22	
		52 22

BOATING.

On man, one boy, and one horse form an adequate appointment for a boat of thirty tons, which will travel, on an average, twenty six miles per diem, total distance from rail road to Philadelphia, two hundred and sixty four miles, the double of which five hundred and twenty eight miles will occupy twenty days and a half.

One man per pay	$1 00	
One boy, do.	50	
Keeping of one horse.	50—$2 00—2½ days,	4 00

USE OF BOAT AND HORSE.

Cost of Boat two hundred and fifty dollars. Use thereof for twenty and a half days at twenty per cent per annum, of nine months navigation,	3 70
Cost of horse and gears, one hundred dollars. Use thereof for twenty and a half days at twenty per cent per annum for use and risk of death,	1 11
Prime cost of thirty tons on board the boat,	$149 03

At Philadelphia or per ton $4 97

The distance from the Eastern termination of the rail road to Philadelphia by the Pennsylvania canal and the Columbia rail road is two hundred and twenty four miles.

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No. 27.

LYCOMING MINES, November 28th, 1833.

Dear Sir—I will cheerfully answer all your enquiries on the subject of Bituminous coals, as far as I can, from memory, and such notes as I am now in possession of. I will do it as briefly as I can, but in order to show the relative value of West Branch, and other Pennsylvania coals, I shall be compelled to submit a sketch of the coal resources of other districts, to show how they are to be estimated in a competition.

The Anthracite coals of Pennsylvania are now pretty well ascertained, and are introduced into such general use, that a foundation is laid for a great augmentation of its consumption, and a valuable commerce to the capital of the state. The public, will never appreciate in full justice, the great efforts, and active services of the pioneers of the Lehigh and Schuylkill districts, in introducing that coal into domestic use.

The bituminous coals are more particularly designed for manufacturing purposes. The veins are generally found in positions nearly horizontal, and in parallel strata. The close-burning species is the kind which melts, and forms a crust, or what smiths call a hollow fire, and emits a bituminous smell. The open-burning kind produces an extensive flame, which passes freely through the coals, and emits little or no bituminous smell when burnt in a grate.

The Virginia mines near Richmond and James' River.

Ellis Hill mine is fourteen miles from the river. The shaft is four hundred and eighty feet deep. The vein is twenty five feet thick. It is full of sulpher, and strong sulphuret of iron bands, requiring powder to blast it. It is inferior coal, and but part of the vein is wrought. Fourteen feet above is another vein six feet thick, and the coal is bet-

ter. A few feet above is also a five feet vein of still better coal. They are all soft, close-burning coals. It is raised from the shaft by mule power, and it has been hauled to the river, a mile below Richmond, at nine cents per bushel,—two dollars seventy five cents per ton. A rail road is now far advanced or finished from the above mine.

Black Heath is understood to be found by the union of the above and another vein. There is a *Dyke* between this and the Ellis Hill vein, which throws up the former near two hundred feet, although they are but two miles apart. The Black Heath vein is about forty feet thick, but one third of it is left to sustain the roof. This mine takes fire generally every year, and five or six months are lost annually in drowning out the fire. It is now generally rumoured that this vein, which has been esteemed the best in Virginia is exhausted.

Stone Henge is fifteen miles from the river. It is a mile from Ellis Hill. The thickest vein there is four and a half feet. There is one above three feet. The coal is good.

Phiney and Brown are on the north side of the river, and eight miles from it. Their upper vein is eight feet, and is good coal. The lower is three and three fourth feet, and is inferior. It has been difficult to keep this mine clear of water, with two steam engines.

Tuckyho mine is about nine miles from the river, but the coal is inferior.

Graham's mines are on the same side of the river eighteen miles distant from it. It produces good coal.

The Virginia mines are all wrought by negroes. They are very wet. They are generally inflammable. And the coal from several of the mines is liable to spontaneous combustion, when laid in a heap and exposed to the weather.

Cumberland and Will's Creek Mines.

The Wills' Creek mines are about eight miles from the town of Cumberland. The veins are six feet thick, and the coal is a good close-burning coal. *The Cumberland* mines are within a mile of the town and twenty-four miles above the town. The vein is a good one and more than ten feet thick.

The Round Top mine is on the Raystown branch of Juniata. It is about thirty miles from Huntingdon by land, and sixty eight by the course of the river. The vein appears to be in the same range with that above Cumberland. It is about the same thickness, and of an equally good quality. It is wrought only for Smith's in the neighborhood.

Clearfield mines are sixty miles above this location. There are several veins from two to six feet thick. Some of them contain impurities to an injurious extent, but several of them produce very excellent close-burning coal. The difficulty which has prevented working them extensively is, the falls above this, and the high dams below. One or other are apt to destroy their property. Some good coal has been produced from the mines above the head waters of Juniata, and

a rail road has been located on that route twenty seven miles from Philipsburg.

The Lycoming Company's coal field, on the West branch of the Susquehanna, commences northwest of the Alleghany range, which crosses the river a little below this settlement. Its passage through the mountain, is on a fall of about two feet to the mile, and the new dam, being twelve feet high, will back the water at its common stage six miles, and within half a mile of us. The coal veins found here are two and a half, four, five and six feet, in thickness. The coal is of two different species, of a bituminous kind; one, a strong open-burning coal, peculiarly adapted to the use of reverberatory furnaces, steam engines, and to many important manufacturing purposes; the other, soft and close burning, for the use of smiths, and for the making of coke. The veins now opened are about one mile from the river. It is an important fact that both of these kinds of coal are found in this district, and both, in parallel strata in the same hills.

Lycoming Creek mines are situated on the great line of communication, between the central parts of Pennsylvania, and the Seneca lake in New York. That state has recently constructed the Chemung canal, extending sixteen miles from the lake to a point, six miles distant from the line of Pennsylvania. From thence to the West Branch of the Susquehanna is seventy-two miles. The coal valley or basin, which lies about midway on the above route, contains several veins which are from two to six feet thick. They have been opened on the above route of communication and in Tioga county, and wrought to a limited extent. The coal is good and there is an abundant supply of argilaceous iron ore. This will become an important district, when a communication shall be opened, so that an enterchange may be made of the Pennsylvania coal and iron for the New York plaister and salt.

The Nova Scotia Mines.

The Sidney mines at Cape Breton. The vein is about six feet thick but the roof being not good, they are obliged to leave a part of the coal. The coal is soft and close-burning. They work five feet five inches. The old French drifts are abandoned, and they now take up the coal through shafts of two hundred and fifty feet deep by steam power. It is then hauled one and a half to two miles to the landing. From thence it is taken to North Sidney by lighters, a distance of five or six miles up the bay. The price for mining the last five years has been about one and nine pence per chaldron which is here fifty bushels, and ten shillings a week for rations. Some of the jobbers get one pound one shilling and six pence, for a running yard of five yards wide and five feet high. The haulers take up from the miners and convey the coals to the shafts for eight and nine pence the chaldron. The coal and the water, of which there is a great deal, are raised by steam. Hauling to the landing one and a half miles is one shilling a load of half a chaldron or twenty cents for twenty five bushel.

Bridgeport vein is nine feet thick, but five feet nine inches only of it are wrought. The other is left for roofing. There are two inches of slate in the vein near to the bottom. The coal is of the same kind as that of Sidney. The old drift is abandoned. It was liable to be inundated by the tides. The expense of mining is about the same as at Sidney. The coals are hauled to the landing near two miles. Small schooners convey it to the ships, which in calm weather approach within a mile, but unless in very calm weather it is an unsafe harbour for shipping, and the coal is taken by the schooners to Sidney, fifteen miles.

Pictou mine. It is twenty-nine feet thick, but ten of the best only of the coal is wrought. It has one seam of slate five inches. The shafts are from sixty to two hundred and forty feet deep. It is open burning coal, hard, and is mined with powder. Lignite, and some other impurities are found in some parts of the vein. The coal is mined for one-ninth pence the cubic yard and one-fifth pence for filling. The miner finds powder, and the company find tools. It is conveyed about a mile to the landing on a rail-road, and from thence about six miles to the shipping.

British coals are generally of three classes. The northern and southern parts of the island produce open burning coals, and anthracite. The latter species is very abundant near Swansea, in Wales. The middle parts of the island produce softer coals, although there are many exceptions to this division. A few years ago I assisted a ship owner, who came to Philadelphia with two vessels and cargoes of coal from Sunderland, to form some estimate of the American market for New Castle coals, and the result was, with the then cost and charges in England and duties here, a coal trade could not be carried on with the United States for less than forty-two cents per bushel or thirteen dollars per ton, so that competition cannot be expected from that quarter. It is a fact not to be overlooked in Pennsylvania, that the prosperity of Great Britain, and the maintenance of our canals and rail-roads depend primarily on her coal mines. One half the amount of coal consumed in London annually, transported on the public improvements from this location to Philadelphia at five mills per ton, will pay a yearly interest on the state debt.

Transportation is the next matter of consideration. At the present time this coal cannot be transported to market, either by land, or by canal.

The Lycoming company have expended large sums of money to mine their coal, and to provide means of transportation, while the state was also making liberal appropriations, to provide other and better facilities for the same purpose. Thus far the designs and expenditures of both parties, promise but little to the coal interests of this section of the state for some years to come. A steamboat, and ten additional boats, designed to be towed by her, were constructed under an understanding that they might be advantageously used, between the mines and Pennsborough to convey coal to the canal, or bring up canal boats to be loaded. This arrangement was made

under representations, that the dam would not be built till next year, and when built, it would fill the canal, and be provided with a side lock, which would enable us to use the river, till the canal should be permanently useful. This representation was continued to us, even till within three days of closing the navigation of the river by obstructions.

Proposals for the construction of a side lock at the dam were invited by public advertisement, but we do not perceive that the plan of building it is persevered in. In consequence of this change in the plan of constructing the state improvements our steamboats are useless. We are prevented from sending the coal to the canal at Pennsborough and returning the craft. By experience it is fully ascertained, that no extent of business can be done with arks, even if the four chutes were all in order at one time. The canal is not yet finished. The consequence is, that no practicable route is now left to this coal region, nor can any be expected under the existing form of the improvements for some years, and until the whole canal shall become permanently capacious. Had the state proceeded this season to construct its side works, abutment, guard locks, chute, &c., and prosecuted vigorously the work of the main line, and the next season, when all the canal was nearly ready, had they put in the dam and free lock as proposed, the business of this company, and others in this vicinity, might have been continued regularly on the river to Pennsborough, and on the canals from Pennsborough, until the sections above that point became permanently in order. On the present system of high dams and chutes, I am convinced that no extensive business can be prosecuted for several years, either on the river or canal. The risk and loss on craft which conveys the property, cannot in most cases be sustained by it. The upper sections of this canal will not become of permanent and steady use in less time than five years, and until it shall be known to be so, boats will not be constructed for it. It would in my opinion augment the revenue of the state from these canals, to construct free side locks at all the high dams. They are now often as oppressive on the boatmen and merchants, as they are on the river men. Instead of remaining weeks in broken sections of the canal, at a heavy expense, and injury to merchandize, if there were side locks, the boats would pass round such section by the river, with little additional expense and prosecute their voyage. The state can always make a just discrimation in assessing her tolls to prevent unfair evasion. E. G. Coal, which shall have passed over the whole line of canal, if in order, from the upper section to Columbia, should on a continued voyage over the rail-road, be assessed lower than if it were run to Columbia by the river, and then despatched by the rail-road. This policy is adopted in some of the canals and rail-roads in England.

Unless something be done speedily to remove the discouragements, which are now impending over the coal resources of this district, including an extent of seventy miles, they must of necessity all be abandoned; and I apprehend the atlantic supplies will not be drawn,

unless very partially, from Pennsylvania. Various efforts are now making in the Cumberland and Will's creek district, to supply the Chesapeake and the city of Philadelphia, from that quarter. There is also a strong atlantic manufacturing interest in favour of taking off the duty on bituminous coal, and scarcely an interest, except the Pennsylvania improvements against it. If that were done, the coals of Pennsylvania cannot be supplied as low as the coals of Sidney and Pictou, which have been selling in Philadelphia at seven to seven and a half dollars.

There is another consideration; for five years, we have continually heard of ruinous losses of property at the chutes, and incessant threats to demolish the public improvements. It is a sad spectacle to look abroad over one-third of the surface of the state, and see the inhabitants driven to lawless and desperate acts against its improvements. A small sum, a very small sum, compared with the great expenditures of the state, would relieve and would satisfy them. If one free lock at a dam is not sufficient give them two, if two be not sufficient, give them three. If *necessity* force those people to open a navigable stream through the improvements, as it was said to have done last spring, those who rely on the use of the canal, will be the first and principal sufferers.

I have made the above suggestions particularly in reference to the interests, which I have the honour to represent, and under a knowledge, that the extent of business proposed by this company is of greater magnitude than the public have been apprised. The height of dam is unimportant to their interest, unless it be more liable to breaches. We want an uninterrupted river navigation to the canal, where it is permanent. We want an uninterrupted canal navigation as soon as our dependence can be placed upon it. We want light toll assessments on our property, because its prime cost is very little. Its value in the market is principally money advanced, and our property cannot sustain heavy charges. As to the state improvements, we wish to repose our dependence upon them; and it is a matter of extreme regret to us, that those who direct them, should have found it necessary to exclude the products of this district from them, as far and as fast as they are completed.

I am sir, most respectfully, your obedient sevant,

WM. P. FARRAND.

S. J. Packer, Esq.

ERRATA.

Page 7, line 24—for "has" read *as*.
" 12, line 12—for "Chemung," read *Chenango*.